

University News

A WEEKLY JOURNAL OF HIGHER EDUCATION

MONDAY, AUGUST 12, 1996

Rs. 7.00

K.L. JOHAR

Economic Reforms and Management Education

B.M. NAIK

A Case for Initiatives in Technology Transfer

P. NARSAIAH & E. CHANDRAIAH

"Consumerism" in Open Learning System

T. THOMAS

On the Threshold of Excellence

R.B. SINGH

From 'Begging Bowl' to 'Exportable Surplus' — Convocation Address

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Admission Committee (PG)

UNIVERSITY NEWS

VOL. XXXIV AUGUST 12
No. 33 1996
Price Rs. 7.00

A Weekly Journal of Higher Education published by the Association of Indian Universities

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Editor :
SUTINDER SINGH

Economic Reforms and Management Education

K. L. Johar*

Indian economy has undergone a number of structural adjustments since July 1991. These adjustments are the outcome of political decisions to achieve rapid economic growth through liberalisation of economic and financial policies of the country and also to fall in line with the changing world economic order. At the global level, the economic environment has tended to become highly liberalised since mid-nineties, when US economy experienced sudden deficit on its trade front. As a result, international institutions like World Bank, International Monetary Fund and General Agreement on Trade and Tariffs have assumed the role of catalytic agents of world economic system. Majority of the nations under the guise of economic reforms surrendered gradually to the dictates of these institutions and allowed their respective economies to open up for outside competition. India remained no exception to this changed phenomenon and has gone for economic reforms in a way so as to become an active participant in the world market. Under these reforms, India has made several structural adjustments in her economy such as reducing the role of public sector, freedom to private sector, easy entry of multinational corporations, closure and rehabilitation of sick units, encouragement for automation and computerisation of business operations, voluntary retirement schemes and so on. To facilitate these adjustments, it has gone for liberalisation of economic and financial policies in a big way.

The economic reforms in process are taking India towards market economy which in its wake has brought certain peculiarities like free competition, wider applicability of theory of comparative advantages, survival of the fittest and, above all, the need for intensive specialisation at all levels. Simultaneously, the process of reforms has also posed a number of challenges before the economy. They have their political, administrative, social, cultural and educational implications. The role of State has shifted from social welfare state to the form of a laissez-faire state. The man is being gradually replaced by technological factors from the centre of development process. The social and cultural activities are under great stress in the changed economic set up. The age old educational system has lost its relevance in the light of the changed needs of the economy. All these developments have created a sort of disharmony in the functioning of various segments of the society.

The greatest challenge of economic reforms is for the educational set up, which is supposed to develop human skills to meet the changing requirements of the economy. Till recently, India was more or less a closed economy with foreign interaction governed by bilateral treaties. Public sector had a dominant role to play in economic activities

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and government policies were largely directed by social welfare objectives. The existing educational system was thus designed and structured to meet the needs of the economy under the prevailing system. Education inculcated values like democracy, secularism, fraternity, patriotism, justice, tolerance, simple living and so on among the learners. Now the needs of the economy have altogether changed. Education being disseminated in the temples of higher learning has lost its practical relevance with a considerable gap between theory and practice. That is why today's learners have lost interest and faith in education. Majority of the students in college and universities are irregular as they find nothing special to learn in the classrooms. They can easily depend upon all sorts of notes and guides or private tuitions to get through the examinations. There are frequent cases of vocal disrespect towards teachers and copying in examinations. All these highly speak of the status of higher education in the present context. With the full implementation of the economic reforms the problems of education will aggravate unless the needs of the economy and our education system are synchronised.

The emergence of open market system has created a paradoxical situation particularly in the field of management education where industry's need for executive level personnel has become highly specialised and educational institutes still continue with their old set up. In the pre-reforms era, the industry required executives who had general exposure to all the functional areas of business and this need was by and large met by the institutes engaged in imparting management education. Due to the existence of a large number of government regulations and controls over business operations during that time, the managers were expected to be largely go-getters and less professional. But now the requirements of industry for managerial talent have altogether changed. It needs managers who are highly specialised, thoroughly professional and globally efficient. Today industry needs specialised managers in the field of finance, marketing, production, human resources, information technology, computer applications and so on. Not only this, even in the broader spectrum of these functional areas some branches have cropped up which need intensive specialisation. For instance, in the area of finance the incumbents may be trained to specialise

in financial services, equity research, corporate working capital management, project appraisal and finance, capital budgeting, forex management and so on. Similarly, the area of marketing calls for specialisations in advertising management, distribution and logistics, import-export procedures and documentation, international marketing, rural marketing, etc. Such branches of knowledge can be identified in all the other functional areas of management. Now a situation has arisen when highly skilled people in these specialised areas are scarcely available. High profile business magnates scout for talent and lure the few available gifted executives to their fold. Here comes the role of institutes of higher learning to restructure their management education programmes in a way so as to cope with the demand of industry under the changed business scenario and provide adequate specialised manpower to every segment — large or small. Prof. S.K. Khanna, the then Chairman, All India Council for Technical Education rightly said, "We cannot build a sustainable and prosperous India without human resource development which depends on the health and vitality of higher education." The universities and institutes of higher learning cannot keep toying with producing unmarketable ware, but have to get on to produce the best of technical and intellectual human capital to meet the global competition.

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Published by :

Ph.: 5504042, 5554042

CONCEPT PUBLISHING COMPANY

A/15-16, Commercial Block, Mohan Garden,

NEW DELHI - 110059 (INDIA)

Cable : CONPUBCO Fax : (011) 5598898

A Case for Initiatives in Technology Transfer

B.M. Naik*

Learning from the experience of other countries it can be said that Technology Transfer and Marketing from Higher Technical Education Institutes to industry and vice versa is the pressing need of Indian economy. Japan's multinational enterprises have, for long, established links for Technology Transfer and Research & Development (R & D) not only with institutes in Japan but also with institutes in United States, United Kingdom, and Europe. This is considered to be one of the important factors which has enabled Japan to become an industrial leader. In India, thus far, it is more the foreign collaborators who have propelled the industrial growth. Academicians and Technical Education Institutes have remained away from industry. Now time has come when they should stop working in isolation and move towards each other.

Technology Transfer has become a major phenomenon in global economy. It is being considered a key to industrial competitiveness. Technology generation, dissemination, patenting, Intellectual Property Rights, are some of the current important issues before the nations.

Technology level of a nation has become the determinant of its economic wellbeing. Therefore, efficient organization and management of technology transfer in any nation more so in India, is the need of the hour. Performance of institutions dealing in technology in isolation, ought to be discouraged. Fresh initiatives to integrate the working of universities, CSIR labs, engineering colleges, industrial estates, chamber of commerce, on the lines followed in Germany need to be introduced forthwith.

True that India is relatively a late starter in industry. It has traditionally been an agriculture based country. However, the Government now has taken a policy decision to build India a technology oriented nation and things are moving fast in this direction. Many engineering colleges have come up, especially in southern states, and more than 1,00,000 engineers are passing out each year. Industrial Estates are being established even in small towns.

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There is an atmosphere of enthusiasm in commerce, trade and industry. There exists a market pull which badly needs a Technology Push, which the higher education institutes ought to give.

Although essential, mere development of technology in laboratories and dissemination through usual methods of education, training, publication is not enough. The new technologies need to be transferred quickly and efficiently to industry to increase their productivity. Effective partnership between academics and industry in technology transfer is found to revitalise both the industry and the institute. They both thrive on each other's support. Today, in India there exists no technology transfer department in most of the academic and research institutes. However, the consciousness to set up such department is increasing. Technology transfer, usually known as Extension, exists only in Agricultural Universities in India.

Engineering Colleges as Technology Providers

Engineering colleges, IITs, polytechnics, ITIs, which so far remained away from industry have recognised that they have to bring about industrial development also. They have a leading role to play in innovation and entrepreneurship. So far the foreign collaborators have been transferring technology to Indian industry. They will keep doing so in future. But it is more expensive and makes us dependent. The ministries of industry, commerce, trade and education have to consider worldwide developments like Technology Parks, Incubators, Entrepreneurship Centres and adopt them with modifications, if necessary, to suit our conditions. Japan and Germany have set up such institutes on the periphery of technical education institutes. Why can we not do that? Can our institutes not serve as a hub for area development?

Higher Education Institutes and Industrial Estates

A large scale programme is undertaken by central and state governments to set up industrial estates and growth centres. Large investments are being made in them to provide infrastructure like land, water, electricity, etc. Huge amounts of loans and subsidies, are being given to entrepreneurs in

backward areas. Young enthusiastic persons are taking up to entrepreneurship, working hard day and night with a dream to become industrialists. However, many of these enterprises in the course of time become sick. Some enterprises are born sick due to wrong conception, some choose wrong technology and their future in spite of big market and hard-work, is not bright.

The academic institutes, colleges, IITs and CSIR labs should show concern as to why many industries become sick. What could be done to avoid this? The government would have to dovetail the role of knowledge organisations, technical organizations with the establishment and running of industrial estates. With the increasing role of technology, the existing systems and procedures of industrial estates will have to be altered, it is not enough to have money and raw material to run an industry. Appropriate technology has assumed great importance. It is also not enough to have monitoring cells for industries in banks which give loans. Technology Audit has now assumed more importance than financial audit. There are doctors with various specializations to cure patients. Similarly, multiple approach to cure industrial sickness has become necessary.

Science Parks, Incubators, Entrepreneurship Centres

There are well defined systems and procedures to import technology from abroad. There are international consultants, agencies which help to collaborate. But there are not many organizations, systems and procedures to transfer technology from institutes within the country to industry. There is a dearth of organizations for internal and domestic technology transfer. This, however could now be rectified by installing boosters in the form of incubators, technology parks. They are needed more in developing countries like India, where industrial culture is relatively new. There are hundreds of these in developed countries where industrial culture is deeply rooted. In USA, UK, Germany and Japan, it is a common phenomenon that hi-tech knowledge based industries are spin off from academic institutes. Apple computer and HP are some of the examples. Also, new industrial complexes are coming around knowledge centres. Technology rather than finance has become the determinant for success. In Japan, government funded research institutes are being set up on universities' campuses.

Young students with high competence are learning not only in universities but also in such institutes and carrying technology to industry quickly. Contract/sponsored research has become a common thing.

Shall we, in India, not transfer this organizational invention to our industrial estates? As the maternity homes are necessary for safe childbirth, so are the incubators and science parks for safe start of companies.

We do have a few of them. But they are so few that in a big country like ours they hardly make their presence felt. The government has a central role in bringing together, the industrial estates and innovators. U.K. has implemented "Teaching Company Scheme" and European Commission has implemented "COMET", to improve competency of existing workforce in industries. Cost was shared by industry and government. Can such schemes improve the performance of Indian industry and reduce sickness? The benefits are far more than the cost.

Venture Capital

Venture capital has been playing a vital role in promoting/starting of new technology based firms in developed countries. In India government companies like RCTC, TDICI have made a beginning. But there are no private venture companies. The experience reported is, that the funds instead of being used for new untested technology, are being used by big companies for routine purposes. Will the VCF companies reach the innovators? This is going to decide the innovation and growth. A change in direction of usage of VCF is desirable. Academicians have to come forward to use them and to test their new ideas and products.

International Co-operation

In the present time characterised by globalization, UNESCO and similar bodies have a crucial role to play. They ought to facilitate developing countries, to learn New Technology, without being required to reinvent the wheel. In India there exists a market pull and technology push is wanted.

Conclusion

The academicians and technical institutes in India have, thus far, remained away from industry. It is more the foreign collaborators who have gone nearer to it and propelled the industrial growth

although at a high cost and with a time lag. Now the two, namely, the industry and institutes would have to move towards each other to make India a technological nation.

Technology parks, incubators, entrepreneurship centres, patenting, etc are some of the necessary boosters to transfer technology and improve the performance of industrial estates. Role of institute in establishment of industrial estates will have to be reviewed. Reengineering of existing systems and procedures is desirable. In Germany, professors have two hats, one in the university and the other in industrial development agency.

Technology transfer in a developing country does not mean hi-tech to send a man to moon. It could be simple enough to increase industrial pro-

duction and productivity. Engineering colleges, polytechnics, ITIs do possess such abilities. They are *Shakti Kendras* but for want of proper channels they remain unused. Steinbeis centre scheme implemented in Germany by polytechnics is a good case to emulate.

Integration and pooling of efforts in a proper direction by all technical institutes, CSIR labs, IITs, Chambers of Commerce and industries, and taking helicopter view for technology transfer is the key to success for achieving industrial development. There is no doubt that the network of institutions, policies and procedures of government, matched with enthusiasm of industry will take the nation on the path of industrial, economic and social progress.

CALENDAR OF EVENTS

Proposed Dates of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/ Officer to be contacted
Sept. 16-20. 1996	Training Programme on Modern Technologies for Information Handling	To familiarize users with modern technologies for Information Handling	All India Institute of Medical Sciences, New Delhi.	Dr. R.P. Kumar C/o B.B. Dikshit Library, All Indian Institute of Medical Sciences, Ansari Nagar, New Delhi - 110029
Sept. 23-25. 1996	TQM in Library & Information Services	To equip the participants with adequate knowhow of Information Services	Indian Institute of Management, Lucknow	Dr. Roshan Raina Librarian, IIML, Parbandh Nagar, off Sitapur Road, Lucknow, 226013
Nov. 26-Dec. 1. 1996	IAEWP Eighth World Congress to be held at Zagreb, Croatia	To promote International Peace	International Association of Educators for World Peace (IAEWP)	Dr. Nenad Javornik, IAEWP, Ulica Crvenog Kriza 14/1, Zagreb 100 00, Croatia OR Dr. Surya Nath Prasad Reader, Janata College of Education, Post Box No. 113, Chandrapur - 442 401, Maharashtra
Jan. 29-31, 1997	16th Annual Convention and Conference on Access to Electronic Information	To focus on present changes, challenges, responsibilities and future probabilities in accessing electronic information	Society for Information Science, Bhubaneswar	Dr. P. Padhi C/o Department of Library & Information Science, Utkal University, Vani Vihar, Bhubaneswar-751 004

"Consumerism" in Open Learning System

P. Narsaiah*
E. Chandraiah**

In realisation of the need for catering to the felt needs of those sections of the society who missed the first chance to educate themselves, open learning system was invented and implemented first in Great Britain. India joined the family of open learning system on 26th August, 1982 with the inauguration of Dr. B.R. Ambedkar Open University (Dr. BRAOU — formerly known as Andhra Pradesh Open University) in the State of Andhra Pradesh. Indira Gandhi National Open University (IGNOU) and some other States followed suit. This new system of education, in a broader sense, has only one objective, namely, reaching the people and places hitherto unreached to provide higher education at their doorstep.

This system of education which is more than a decade old, is not free from operational problems like, preparation and despatch of reading material, conduct of exams and publication of results, etc. While these are the internal constraints, there are external forces like judicial control through the newly added dimension to the judiciary, i.e., Consumer Protection Forum which condition the performance of the system.

Consumers Protection Act (CPA)

In realisation of the sovereignty of consumers and with an objective to protect their interests Government of India has enacted Consumers Protection Act 1987. The underlying philosophy of the Act is to provide inexpensive and speedy justice to the consumer. Though it is debatable whether a learner is a consumer or not, learners of open learning system (of Dr. BRAOU) have been taking recourse to consumer fora.

In this paper an attempt is made to study the implication of students' recourse to Consumer Forum with a view to examine the impact of such a

move on the working of the system so that both the present and future open universities and schools/centres of distance education can draw lessons for future guidance.

Dr. B.R. Ambedkar Open University

There are approximately 60,000 learners on the rolls of Dr. BRAOU today in undergraduate, post-graduate and Diploma courses (Table 1). The number is not unmanageable and the managers are required to justify their action or inaction with regard to despatch of reading material and conduct of examinations to consumer fora.

From the year 1989 some of the learners of this university have been going to consumer fora with their problems relating to: 1) non-receipt of reading material in time, 2) non-receipt of application form for registering either for examination or admission, and (3) non-receipt of memo of marks, etc.

Analysis of data

The data regarding complaints by the learners in different fora of the state is analysed below:

On an average, in an academic year 12 learners of various programmes have been filing writ-petitions in different District Consumer Fora. It is to be probed whether the "Service" in regard to them is prompt and timely. Sex-wise break-up indicates that hardly 2 female learners have so far sought the help of a Forum for the redressal of their grievances.

Region-wise analysis of the complaints in the Fora reveals that Telangana region is ahead of other regions (Rayalaseema and Coastal Andhra). It is another point which needs further probe. (Table 2).

Nature of Complaints

Analysis of the complaints filed by the learners reveals that most of the cases relate to non-receipt of course material in time, non-receipt of memos, etc. (Table 3)

The Consumer Protection Act provides an opportunity to a consumer to file a suit in Consumer Forum for "Defective Service". An analysis of the cases filed reveals that it was not the defect in service but "delay in service". It is interesting to note that almost

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all the complainants are unemployed young men. It is gathered that they were instigated (as confided by them) by their lawyer relatives. Perhaps, left to themselves, had it not been inexpensive, they would not have sought the intervention of the Forum.

Response to Summons

No sooner the summons from the Forum are received than the University jumps into swift action to attend to the case(s). As a special measure, books to complainants are sent either by a special messenger or by registered post with acknowledgement due. Thus, the Forum's orders are obeyed (though the Forum does not order so) to show to the Forum that the university is alert and aware of its responsibility to the learners.

The university gets an affidavit prepared in consultation with its standing counsel and presents it to the Forum. Up to 1992, a representative of the university used to be sent to the Forum from the head office with an affidavit to present the position and point of view of the University. Since, cost effectiveness is one of the cardinal principles of the system, from 1993 onwards the University has been entrusting the responsibility of filing an affidavit in the Forum to the manager of the study centre, i.e. Coordinator/Asst. Director/Dy. Director. This cost saving measure has resulted in saving learners' money.

Judgement

In most of the cases, the university has successfully convinced the Forum and obtained favourable judgements (Table 4). The stand taken by the university has been that on receipt of court summons it delivered the course material to the complainant without any loss of time. The argument has been that it is ready to serve the students as and when any delay in service is brought to its notice. If the aggrieved learner had approached the university before filing the complaint in the Forum, or if he had written to the university, the University would have attended to his problem. The learners' claim that they wrote several letters and only as a last resort, they sought the intervention of the Forum, was not substantiated by material evidence. Hence, the Forum dismissed the petitions and delivered the judgement in favour of the university in most of the

cases. Efforts by the university to settle the cases outside the court have not been effective.

Issues

The following are the issues which need to be attended to for providing efficient, prompt and timely service to the learners.

1. The managers of the study centres, it is reported, do not take the responsibility for delay in receipt of course material;
2. No learner-wise material despatch register is maintained;
3. Course material is not sent by registered post with acknowledgement due;
4. The despatch staff is not fixed personal responsibility;
5. Postal department is not fixed with responsibility either for non-delivery or delay in delivery;
6. No learner-wise receipt is issued by the post office;
7. There is no check on the person in charge of packing and posting of the course material;
8. Only limited franking and posting facility is available;
9. Memo of marks is not sent by registered post;
10. No schedule of publication of results is drawn up; and
11. There is cross check on the entry of marks.

Suggestions

Following are some suggestions which need the attention of the managers of the study centres :

1. A learner-wise material despatch register, if maintained, would help the varsity to satisfy the learners;
2. Despatch of course material/memos by registered post with acknowledgement due will place the university in a comfortable position;
3. Around 100 sets of course material may be sent to the study centres by the university with an advice to the manager to make available the course material to such learners who approach him/her with a complaint that he/she has not received his/her course material. A declaration may be obtained from him/her in a proforma so prescribed for the purpose.

"I declare that I have not received my set of course material. In case it is detected and proved that this is my second set of course material, I shall not only return one set but also take the suitable punishment from the University".

4. The postal authorities may be approached to allow the university to despatch the course material from any post office from the twin cities of Hyderabad and Secunderabad;

5. A sympathetic approach with persuasion will avoid, to a great extent, the recurrence of such cases;

6. The university, like the Union Public Service Commission (UPSC) may draw up exam schedules and stick to them scrupulously. Cross check of memos may be undertaken to avoid wrong entries, or no entry, or absent;

7. In order to bridge the communication gap and identification gap, an "identification programme" should be undertaken through *Opvarsity News Letter* in the following way :

- * Write to the University if you have any difficulty
- * Go to Consumer Forum only as a last resort
- * This is your University and our University
- * Let us join to work together for mutual benefit

IGNOU & Other Universities

IGNOU has 16 Regional Centres throughout the length and breadth of India. Though much is not known about the learners' activism from 15 regional centres, we have some information relating to IGNOU regional centre, Hyderabad. Two years ago a learner filed a suit in district Forum, Hyderabad about the non-receipt of the course material. The regional centre of Hyderabad immediately reached the learner, knocked at his door and delivered the course material at his doorstep. Thus, the IGNOU regional centre of Hyderabad settled the case "Outside the court".

Since information regarding such cases and settlement from the remaining 15 regional centres is not available, no comment is possible.

All over the country, there are schools/centres

of distance education under the umbrella of conventional universities. In the State of Andhra Pradesh almost every conventional University has been offering education through distance mode. No information is available regarding learners recourse to Consumer Forum, hence no comment is possible.

The first Open University of the world, i.e. British Open University, may not be free from such "Active Learners". Since no data is available, no conclusions can be drawn.

Conclusion

Public institutions are no more closed systems. They are so open that their internal functioning is subject to external controls or influences. In this case, some active learners are acting as a check on the inactiveness of the system. A new system has many new problems like sale of product, competing with the already existing schools of distance education. Judicial control is adding another dimension to its already existing problems. Conventional universities, since they do not promise the supply of reading material, are in a safer position. If students of that system and this system seek the intervention of the Forum regarding the conduct of scheduled classes, it may become one more problem for open learning system and for conventional system.

Table-1 Dr. BRAOU Student Enrolment

Sl. No.	Academic Programmes offered by the University	Student Strength 1993-94
1.	Ph.D. in Development Studies	60
2.	M.Phil. in Development Studies	90
3.	Master of Business Administration	901
4.	M.Sc. (Mathematics)	1361
5.	M.A. (Public Administration)	1385
6.	M.A. (Political Science)	1343
7.	M.A. (Economics)	—
8.	Bachelor of Library & Information Science	354
9.	Bachelor of Public Relations	312
10.	B.A., B.Com., B.Sc. Ist Year	29,283
	IIInd Year	16,428
	IIIrd Year	8,219
11.	Certificate programme in Food & Nutrition	210
Total		59,946

Table - 2 Region-wise break-up of the Complaints

S.No.	Name of the District	No. of Cases	Region	Grand Total
1.	Khammam	13	Telangana	34
2.	Karimnagar	9	"	
3.	Hyderabad	7	"	
4.	Nizamabad	2	"	
5.	Warangal	1	"	
6.	Ranga Reddy District	2	"	
7.	Cuddapah	6	Rayalaseema	19
8.	Nellore	4	"	
9.	Ananthapur	4	"	
10.	Kurnool	3	"	
11.	Chithoor	2	"	
12.	Ongole	3	Andhra	6
13.	Guntur	1	"	
14.	Eluru	1	"	
15.	Krishna	1	"	
				<u>59</u>

Table-3 Complaints — subject-wise break-up

S.No.	Subject	No. of Complaints
1.	Non-receipt of course material	19
2.	No admission is given	4
3.	Received no information	2
4.	Change of name/subject/non-issue of T.C.	4
5.	Refund of tuition/fee exemption	4
6.	Extension of time for completing the course	1
7.	Non-receipt of memo of marks	7
8.	Receipt of absent/ wrong memo of marks	4
9.	Not allowed to take the exam	4
10.	No issue of provisional/migration/Degree in Absentia	2
11.	Information not available	2
12.	Results of revaluation not informed/application for revaluation not entertained	4
13.	Delay in declaration of results	2
Total		<u>59</u>

Table-4 Judgement

S.No.	Nature of Judgement	No. of Cases
1.	Stayed	1
2.	Dismissed	32
3.	Withdrawn	4
4.	No action/result	4
5.	Settled	4
6.	Running Cases	3
7.	Closed	7
8.	Not Known	4
Total		<u>59</u>

On the Threshold of Excellence

T. Thomas*

As we move into the 21st century the need for effective management of human resources for dealing with the complex technological, economic, social, political, ecological and global changes can hardly be overemphasized. This book, aimed at students and practitioners alike, intends to provide a totally up-to-date, research-based approach to organisational behaviour and human resources management. The topics are lucidly covered without assuming any previous knowledge of management or behavioural sciences.

The book *Organisational Behaviour* by Luthans Fred (McGraw-Hill International Editions, 1995, Management and Organisation Series. \$ 8.00; Rs. 283.20) contains 20 chapters divided into 5 parts: a) The foundation for Organizational Behaviour (OB), b) A micro perspective of OB, c) The dynamics of OB, d) A macro prospective of OB, and e) Horizons for OB. The foundation is subdivided into 3 chapters: Introduction, Emerging Organizations, and Contemporary Challenges. 5 chapters constitute the micro aspects namely Perception, Personality, Motivation: Needs Content and Process, Motivating Performance, and Learning. The dynamics of OB is covered in 6 chapters namely Group Dynamics, Conflict and Negotiation Skills, Occupational Stress, Power and Politics, Leadership: Background and Process, and Leadership Styles, Activity and skills.

There are 4 chapters dealing with the Macro aspects. These are Communication Technology and Interpersonal Process, Decision Making, Organization Theory and Design, and Organizational culture. The last part Horizons for OB has been fortified with two chapters: International OB, and Organizational Change and Development. At the end there is a 5 page 'References for Boxes and Real cases'.

The main thrust of this volume is the recognition that we are in a global economy and that there have been many recent environmental developments in the arenas of Information, Total Quality, Organisational Learning, Diversity and Ethics. This 7th edition is a thoroughly revised one incorporat-

ing new research findings and latest topics such as the following :

- * knowledge organizations
- * nature of paradigm shifts
- * information technology
- * reengineering
- * benchmarking
- * empowerment
- * organizational learning
- * nature of diversity
- * managing diversity
- * Impression management tactics
- * "big five" personality traits
- * three component commitment
- * control theory
- * agency theory
- * realistic group conflicts theory
- * negotiation skills
- * leadership skills
- * communication technology
- * radical humanism
- * chaos theory
- * network organization
- * virtual organisation
- * horizontal organization
- * cross cultural research
- * transnational competencies

Since it is well known that practice without theory is blind and theory without practice is sterile, the author has taken special pains to see that this book is neither blind nor sterile. There has been perfect blending of theory and practice. This is eminently achieved by incorporating two highlighted self-contained real-world application examples at the end of each chapter. Every chapter is studded with 'Learning Objectives' at the beginning and Summaries and Review & Discussion Questions at the end. Another special feature of this book is that it contains many Experiential Learning Activities which help the reader to reinforce his learning by actual experience rather than vicariously. This, indeed, is a pedagogical breakthrough which is painfully missing in most other books. Another noteworthy feature of this edition is "Integrative Contemporary Cases" at the end of each Part. These are printed on a different coloured paper for quick identification.

As a student and teacher of OB, I can confidently say that this work indeed is on the threshold of excellence.

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From 'Begging Bowl' to 'Exportable Surplus'

Prof R.B. Singh, Director, Indian Agricultural Research Institute, New Delhi, delivered the Convocation Address at the Eighth Convocation of the Institute of Agricultural Sciences, Banaras Hindu University, Varanasi. He said, "Agriculture continues to be the backbone of our national economy, contributing about 32 per cent of the GDP and accounting for two-thirds of the employment in the country. An unprecedented increase in food production had taken place during the last 35 years, the production quadrupling from about 50 million tonnes in 1950-51 to more than 190 million tonnes during 1994-95. The Green Revolution ushered in the sixties has transformed the country's status from that of 'begging bowl' to that of 'self-sufficient' or even of 'exportable surplus'. Today, India has the all time high food buffer stock of over 36 million tonnes and is poised to export about 5-7 million tonnes of food grains." Excerpts

Twentieth century has often been referred to as the age of science and technology. The frontiers of science are expanding fast and the abilities of nations in harnessing the revolutions in biotechnology, informatics, communication, space science and the like will underpin countries' competitiveness. Triggered by the Green Revolution, agricultural transformation in India has been progressing on the lines of industrial transformation. The future for our agriculture can be ensured only when it becomes knowledge intensive and its growth is science-based. It will be my endeavour to give a broadbrush picture of the state of the food and agriculture and point out our responsibilities for creating new paradigms in agricultural research, education and development needed to judiciously meet the veritable challenges and opportunities of enhanced and sustained growth in agriculture.

Current Scenario

Agriculture continues to be the backbone of our national economy, contributing about 32 per cent of the GDP and accounting for two-thirds of the employment

in the country. An unprecedented increase in food production had taken place during the last 35 years, the production quadrupling from about 50 million tonnes in 1950-51 to more than 190 million tonnes during 1994-95. The Green Revolution ushered in the sixties has transformed the country's status from that of 'begging bowl' to that of 'self-sufficient' or even of 'exportable surplus'. Today, India has the all time high food buffer stock of over 36 million tonnes and is poised to export about 5-7 million tonnes of food grains. Until recently the country was the highest importer of edible oil. But, during the last seven years its oilseed production had doubled and the value of exports of oil-meal, oil-cakes and minor oils is now twice the highest ever import bill on edible oils. Our progress in production of horticultural, livestock and fish products has also been phenomenal. India today is the largest producer of fruits and the second largest producer of milk and vegetables.

Challenges Ahead

Despite the impressive growth in agricultural produc-

tion, about one-fifth of our population is still impoverished. In the global village also large pockets of hunger and poverty persist. Several recent International Summits from one on children in New York in 1990, the Earth Summit in Rio (Brazil) in 1992, to the Social Development Summit in Copenhagen in 1995 have focused on issues of hunger, poverty, environmental degradation, biodiversity loss and widening economic disparities. The Copenhagen Summit addressed several issues including the following directly related to hunger, poverty, inequity and unsustainability :

- * Within many societies, both in developed and developing countries, the gap between rich and poor has increased. Further, and despite the fact that some developing countries are growing rapidly, the gap between developed and many developing countries, particularly the least developed countries, has widened. (A recent, United Nations report reveals that the richest 20% of the world's population receives 82.7% of the total world income while the poorest 20% receives only 1.4%. Nearly 1 billion people live on income less than 1 \$ a day);

- * More than one billion people in the world live in abject poverty, most of whom go hungry every day. A large proportion, the majority of whom are women, have every limited access to income, resources, education, health care or nutrition, particularly in Africa and the least developed countries;

- * The major cause of the continued deterioration of the global environment is the unsustainable pattern of con-

sumption and production, particularly in industrialised countries, which is a matter of grave concern, aggravating poverty and imbalances;

- * Continued growth in the world's population, its structure and distribution, and its relationship with poverty and social and gender inequality, challenge and the adaptive capacities of governments, individuals, social institutions and the natural environment;

- * Over 120 million people world-wide are officially unemployed and many more are underemployed. Too many young people, including those with formal education, have little hope for finding productive work.

The Constitutional Mandates of India include "raising the level of nutrition", "standard of living" and "improvement of public health". The various Five Year Development Plans of the country have been addressing these issues in many ways. Yet, 360 million people, which was the entire population of India during the First Five Year Plan, are now regarded to be below the poverty line and are facing the risk of hunger. Haemoglobin surveys among the pregnant mothers reveal that as many as 87.5 per cent of them were anaemic and 13 per cent of them were severely anaemic. About 30 per cent of the infants born are of low birth weight. Several other forms of hunger occurring due to low intake of nutrients are widespread.

Reducing the population pressure is our major challenge. Every year, in population term, we are adding one Australia or Malaysia to our already overcrowded country. Per capita availability of agricultural land

in the country, which is already one of the lowest in the world, continues to shrink further. Factor productivity growth is decelerating in major production regimes and our per hectare yields are generally low. On the other hand, loss of agro-biodiversity and degradation of soil, water and other natural resources goes on unabated. Climate change and green-house effects are yet another set of emerging challenges.

With the accent on market liberalisation and globalisation of the economy, new challenges of intellectual property rights, competitiveness and diversification have surfaced. Therefore, unlike in the past when accent was essentially on increasing the total food production to alleviate mass scale hunger, the future transformation of Indian agriculture must ensure congruence among increased productivity, sustainability, environmental and ecological security, profitability, job security, and equity.

New Opportunities

Besides the economic liberalisation, unprecedented opportunities for development have been created through revolutionary progress in science and technology. In the context of agriculture, these developments include Biotechnology, Molecular Biology, Informatics, Remote Sensing and GIS, Crop Modelling, New and Renewable Sources of Energy, and Ecological and Environmental sciences and have already been impacting agricultural transformation particularly in technologically advanced countries. In India, although efforts are being made to harness these new technological developments, the application and impact is far from satisfactory. For instance, in the field of plant biotechnology, the success is largely confined to *in*

vitro culture and isolated cases of creation of a few transgenic plants which are still to leave their laboratories. Likewise, while the number of patents on biological products and techniques is fast swelling in the developed countries, it remains awkwardly low in India.

We must act now and the mode of our action would have to be different. Failure to take action will lead to persistent hunger and poverty, continued degradation of our natural resources, increasing conflicts over scarce resources, and widening gap between the rich and the poor. As we march into the 21st century we must aim to ensure that "every person has the access to sufficient food to sustain a healthy and productive life where malnutrition is absent and where food originates from efficient, effective and low cost food systems that are compatible with sustainable use of natural resources."

New paradigms of research and technology development

Several new and much more complex challenges in agricultural production and distribution have emerged in the last few years. Equally impressive has been the progress in science and technology generation. Considerable changes have also occurred in international relations and business. National and international systems have lately been emphasising the need for the second Green Revolution which must be doubly green requiring the greening of both technology and public policy. These issues call for a change in our agricultural research and education system.

Transition to new and emerging technologies

Biotechnology would greatly complement the Mendelian ap-

proach. Modern biotechnology is already making important contributions to agriculture, forestry and fisheries development. It holds promises for increasing the yield, quality, efficiency, processing and utilization of products, for decreasing reliance on agrochemicals and other external inputs and for improving conservation and use of genetic and other natural resources. The potential of biotechnology is, however, far from being fully exploited since applications are being held in check by the need for still more research and knowledge on the variation, genetics, management and environmental requirements of the biological material used and by the wait for evolution and adoption of appropriate legal and regulatory measures.

Besides production increases, biotechnology has great potential for improving the quality and diversifying uses of agricultural, forestry and fisheries products. Moreover, it can be used as a tool in the sustained production of crops, livestock, forests and fisheries by providing opportunities to:

- * develop genetically broad-based varieties or breeds resistant or tolerant to biotic and abiotic stresses;
- * increase efficiency in the conservation and enhanced use of natural resources, including genetic resources and systems;
- * reduce use of off-farm inputs such as pesticides;
- * develop populations adapted to marginal land and problem soil conditions; and
- * produce genetically engineered organisms for degradation of toxic wastes and detoxification of chemical residues on produce or land.

Modern biotechnology research is concentrated in the private sector in developed countries and is confined to high value commodities targeted essentially to high income consumer groups. Major food commodities are generally of little interest to the private sector. The CGIAR institutes, which had played a leading role in Mendelian breeding are playing only a marginal one in developing and utilizing biotechnology. Developing countries' National Agricultural Research Systems are spending hardly 1 to 2 per cent of the total expenditure on biotechnology in the world. The gap between the developed and developing countries in exploiting the opportunities offered by new biotechnologies is vast and increasing, and if the present trends continue generally the developing countries will be denied access to biotechnology-based total factor productivity growth for significant periods. International Agricultural Research Centres and the public sector in general should increase investment in biotechnology research capacity to generate benefits for developing countries to achieve biotechnology-based agricultural productivity growth and sustainability.

Information underpins policy and planning process. Effort must be made to strengthen informatics in agriculture by developing new data bases, linking the data bases with international data bases and adding value to information to facilitate decision making at various levels. Development of production models for various agroecological regimes to forecast the production potential should assume greater importance. Using the remote sensing and GIS technology natural and other agricultural resources should be mapped at micro and macro levels and ef-

fectively used for land and water use planning as well as for agricultural forecasting, contingency planning and prediction of disease and pest incidences. Basic research on isotopic signature studies for understanding soil-plant biological processes including the dynamics of soil organic matter in relation to soil productivity under various water regimes and efficiencies is yet another new area deserving high attention.

A system and programme based approach

A system perspective means that all research and technology transfer organizations serving a given target farmer/client group are part of a single agricultural technology system and all the components share and adhere to one and the same agreed-upon vision, strategy, goal or mission of making relevant technologies available to farmers. The approach will also avoid the dichotomy between commodity-based research and resource-based research. In fact, commodity research should be centered around resources management and resources are to be managed for commodity and farm productivity and sustainability. The interlinked problems of agricultural intensification, poverty alleviation and environmental degradation are highly complex and require interdisciplinary, integrated and participatory approaches. This cannot be solved by simple transfer of technologies, but requires a system approach and effective partnerships at global, regional and national levels among various sectors and actors. A truly programme-based, and not project-based, approach is called for. A system perspective would need to be evolved in which the role of the individual discipline

and component should be seen as a part of the programme.

Towards a participatory approach

Research systems usually strive to develop gradients of technologies to match the potential of different agro-ecological zones and to meet the needs of different groups of clients. Some are simple with a limited message, area of application and influence and can be adopted without much fine tuning such as post-harvest handling of a specific product. Others may be complex with manifold effects and linkages, such as farming system in rainfed/dryland areas. The approaches to transfer of these technologies will vary.

During the past Green Revolution, a transfer of technology (TOT) approach, based on extension of knowledge and "know-how" without appropriate assessment, was followed. Although some successes were achieved under simplistic, predictable and controlled settings, it was soon realized that there was nothing like a straight jacketed wholesale transfer of technology. The TOT and "Training and Visit" systems approaches were generally unsuitable for the conditions and needs of complex, diverse and risk-prone agriculture.

In the "participatory" paradigm of technology development and transfer, farmers' needs and priorities are put first and farmers participate in research and extension. If this is truly achieved, technology transfer and assessment will become more effective and meaningful and technology transfer gaps could be reduced. This shift in paradigm calls for professional, institutional and policy-related changes. This paradigm recognizes and emphasizes differences at the farm household levels, as well as a pluralist

approach giving voice to individuals and groups in decision-making. It further emphasizes learning and skill development rather than knowledge and technology *per se* which are generally contextual in time and space and hence limited in their transferability. However, resources development would have to be strengthened and attitudinal and behavioural barriers would have to be removed.

Congruency between productivity and sustainability

Productivity cannot be divorced from sustainability, especially in land-and food-hungry regions. The two must go hand-in-hand and must be mutually reinforcing. Often low productivity and poverty are the causes of environmental degradation and unsustainability, especially in marginal and fragile areas. Capacities of existing and potential land, water, genetic resources and other production resources should be systematically analyzed and appropriate technologies should be developed and chosen to judiciously exploit the resources to achieve the twin objectives of productivity and sustainability. A study has shown that in the Chinese province of Zhejiang with the adoption of improved management practices grain yields increased from 2.6 t/ha in 1949 to 11.2 t/ha in 1985-88, and that yield continues to increase.

Ecosystem approach and integrated management

In recent years, a better understanding of the complex dynamics of interactions among cropping, animal husbandry, agroforestry, pests and disease, and natural resources, has been helpful in developing technology packages integrating the various interacting elements. Notwith-

standing the site-specificity of biophysical and socio-economic constraints and prospects, the following may be considered as common points to be kept in view for ecosystem management for sustainable agricultural development:

- * soil conservation and soil fertility management;
- * water conservation, water use efficiency and irrigation management;
- * control of insects, diseases and weeds;
- * germplasm and biodiversity conservation and use for increased productivity and tolerance to biotic and abiotic stresses; and
- * integrated farming, use of new and renewable sources of energy, and income enhancement.

Corresponding to the above common leverage points, interdisciplinary technologies such as integrated pest management, integrated plant nutrient management, integrated soil and water management, new and renewable energy technologies and integrated farming system would be considered as preferred approaches and packages of technologies for sustainable agricultural development.

Complementarity between technology assessment and transfer

Technology transfer must be based on needs and capabilities of agro-ecological settings, resource endowments, agro-production and distribution systems and farm-households. The effectiveness of transferring technologies to meet development goals consistent with sustainable agricultural development will be greatly improved if indicators of sustainability are known for assessing the impact of new technologies. The indicators will

guide in identifying appropriate technologies for transfer, and in monitoring, evaluating and fine-tuning the technologies for transfer, and in monitoring, evaluating and fine-tuning the technologies. As the indicators will vary according to the matrix of agro-ecological features and resource endowments, the approach will assist in locating homologous zones nationally or internationally which could share the same or similar technologies and promote technical cooperation between developing countries.

New 'breed' of human resources

The Green Revolution ushered in the 1960's was sustained during the past 30 years because India had the necessary trained manpower. The preparation for the second Green Revolution will call for a new "breed" of human resources. Unfortunately, most of the state agricultural universities, ICAR institutes and other agricultural institutes have not focused adequately on generating sufficiently trained human resources to meet the new challenges and opportunities. The real challenge now is to upgrade the scientific resources of these institutions in areas like molecular biology, biotechnology, information technology, newer kind of agronomy both in irrigated and dryland agriculture with emphasis on efficiency and sustainable use of resources, agri-business management and socio-economic aspects of future development. New aspects of doing business in the liberalised global economy such as management of Intellectual Property Rights are very weak in the country. In order to fill these gaps we require changes in our approach and strategy areas for course curriculum development, skill development programmes so as to ensure that our future is secured in a strong science and technology base.

Educational institutions must play a pivotal role in the nation building process. No one other than the late Dr. S. Radhakrishnan, former President of India and the renowned Vice-Chancellor of this University rightly said "A nation cannot rise above the level of its teachers" highlighting the importance of competent teachers. While the teachers must be responsive to the new demands, steps should be taken to improve the teacher's competence through developing norms of teaching, institutional mechanisms for evaluation of and incentives to teachers and provision for training in pedagogy and career improvement through re-training programmes.

You will agree with me that it is the universities which have the primary responsibility of generating and shaping the human resource. It is the paramount responsibility of a university to discover and develop scholarly and talented students, teachers and researchers. Recent studies have shown that quality and comprehensiveness of education including those in agricultural universities and institutions have somewhat been compromised and are mediocre. How can then the much needed excellence could be mustered through mediocrity? Knowing that mediocrity breeds faster than excellence, the trend must be reversed or else we will be left behind in our march towards comprehensive livelihood security, peace and quality of life. The very purpose of existence of a university will be questioned unless it provides congenial environment and suitable opportunities to the bright students and enabled intellectual power to unfold its full potential.

Closing Comments

Dear Graduates, man's war

against hunger in India has largely been won. But, pockets of poverty and hunger still remain, hence there is no room for complacency and mediocrity. We must recognise the urgent need for checking the frightening power of human reproduction. Political leaders, research managers, educationists and people at large must be sensitised of the urgency for the reconciliation of the potentially conflicting goals of achieving large, sustained increases in food and agricultural production, productivity and profitability leading to comprehensive food security on the one hand, and improving environmental quality and restoring vast degraded natural resources on the other.

While essential, it is not sufficient only to transform the technology paradigm. Policies, priorities, life-styles and values must also change to realise the desired results. It must be recognized that technologies *per se* are not necessarily destructive. It is often their faulty mode of application and the environment of their use that result in negative influences. The need to formulate and implement suitable policies, models of development without destruction, infrastructures and institutional systems, partnerships and linkages among national and international programmes for harnessing positive and avoiding negative influences of technologies can hardly be overemphasized.

A science-based and efficiently managed system of agriculture must be established and strengthened to render it more sustainable at progressively higher levels of productivity over time. This calls for substantially enhanced investment in agricultural research and human resource development, at least 1 per cent of the national agricultural GDP.

Database on Women's Education

The three-day national seminar on "Science and Technology Education for Women Beyond 2000 AD" which concluded recently at the Sri Padmavathi Women's University in Tirupati strongly felt the need to collect and analyse the database on women's employment in science and technology in different States. It also felt the need to increase the per capita expenditure (PCE) on education of women to Rs 500 in the Ninth Plan to redress the gender imbalance.

Stating that private industry was not encouraging women's participation in technical and managerial jobs, the seminar called for a change in the approach.

The seminar recommended, among others, to make efforts to change self-perception of women and social perception to functional gender equal society.

It felt that flexibility in the workplace needed to be allowed for ensuring quality participation of women in employment. Women should be represented in policy-making bodies.

The seminar identified some of the potential areas for higher employment for women in science and technology. These included: Pharmaceutical sciences, para-medical sciences, bio-medical sciences, instrumentation, computer sciences, health sciences, agriculture production, biotechnology, electronics and telecommunications, perfume technology, cosmetic technology, detergent making, coir products making and so on.

The science and technology components should be included under non-formal education for rural women engaged in agriculture. Specially-designed short-term courses should be offered in rural areas for school drop-out girls on food production, storage, processing and preservation.

The seminar felt the need to increase the number of fellowships for women under the CSIR, ICMR, ICAR.

Mr M V S Prasad, Technical Education Director, felt the need to create more number of colleges for women to bring more scientific knowledge among women. He said 33 per cent reservation for women in jobs and educational courses was a step in right direction in the prevailing socio-economic order.

Prof. (Mrs) P Geervani, Vice-Chancellor of the university, urged the State government to permit the women's university to start para-medical and new engineering courses in the university.

Promoting Export of Technology

A new facility exclusively designed to promote export of technology is reportedly being established by the Department of Scientific and Industrial Research (DSIR). According to Mr. Ashok Parthasarathi, Additional Secretary, DSIR, the new setup, on the lines of the 10-year-old Consultancy Development Centre, would be totally autonomous and its functions would include carrying out of international market surveys, facilitation of exchange

of experts, training and holding of exhibitions, fairs and other such promotional activities.

He said as part of the efforts to give a push to export of technical know-how, it was also proposed to set up offices of the National Research Development Corporation (NRDC), the apex agency wholly dedicated to transfer of technologies from R&D laboratories to the industry, in Jakarta and Dubai.

Mr. Parthasarathi, focusing mainly on the various S&T related proposals in the Union Budget for 1996-97 presented by the Finance Minister, Mr. P. Chidambaram, recently, said the DSIR had much in store by the new initiative to provide five-year tax holiday for approved companies engaged in scientific and industrial R&D on commercial lines. The incentive, he observed, should help tap the vast pool of scientific and technical manpower which the country had built up in the last 40 years and the established competence and productivity of such persons in undertaking R&D through promotion of a new category of firms, called "commercial R&D companies".

Likewise, the DSIR, he said, was quite excited over the expected spin-off of the provision of full exemption from exercise duty for three years from the date of commencement of commercial production of goods manufactured based on an indigenously-developed know-how and patented in any country of the European Union, or the US or Japan.

The incentive, he hoped, would provide a big boost to the undertaking of innovative indus-

trial R&D, taking out of patents abroad, and aggressive sale of the products covered by such patents in the markets of the U.S., Japan and the European Union. "It had the potential of being a major contributor to India emerging as a global player in advanced technologies," he added.

Mr. Parthasarathi also drew attention to the Budget proposal for provision of exemption from payment of custom duty on specified goods imported by companies for use in R&D projects, partially financed by any Department of the Central Government, provided the firm had an in-house R&D unit registered with and recognised by DSIR.

The measure, he said, constituted an important step forward in making industrial R&D cost effective and capable of generating technologies for fully contemporary products that could be sold not only in the domestic market but also abroad.

The DSIR alone has provided partial funding for 100 R&D projects under its "Programme Aimed at Technological Self-Reliance" (PATSER). The first batch of the projects were likely to reach the stage of commercialisation by the next year, generating income not only for the companies who had undertaken them, but also the DSIR in the form of royalties and other such returns, he added.

Mr. Parthasarathi said the proposal to do away with the condition of approval by an outside body for provision of 125 per cent weighted deductions on sums paid for scientific research to a national laboratory, or a university, or an IIT, should also help promote greater investment by industry for R&D.

Under the new arrangement, it was enough for the scientific institution to issue a certificate. The DSIR would, however, have a mechanism to monitor the veracity of the same.

IIT Madras Convocation

The Director General of the Council for Scientific and Industrial Research (CSIR), Dr. R.A. Mashelkar, called for urgent steps to protect the country's intellectual property and vigorous association between the industry and scientific institutions for long-term research and development. The greatest challenge would be posed by patents. Skills in reading and exploiting patents would be "most crucial" in the coming years. "A patent literacy mission will have to be launched with a sense of urgency." Now the country was not in a position to properly protect patents or understand the implications of patents awarded to competitors. He was delivering the convocation address at the 33rd convocation of the Indian Institute of Technology (IIT), Madras.

Safeguarding intellectual property, he said, was very crucial in view of the emerging trend that only usable knowledge that was "protected or protectable" could create wealth. Following India's accession to the World Trade Organisation (WTO), generation of intellectual property, its capture, documentation, protection, evaluation and exploitation were of utmost importance.

In the case of protection of intellectual property rights (IPR), Dr. Mashelkar called for emergency measures in which the scientific institutions like the IITs should participate. The IPR must

be made a compulsory subject in law courses and a number of patent training institutes must be set up besides introducing elements of IPR in various courses.

Talking about trans-national bridges between discovery and the market place, he stressed that the "window of opportunity" for global partnerships would be limited and there was competition from within Asia itself. Still, India could emerge as a global R & D platform if it could focus and innovate.

On the other hand, wealth generation should not be at the cost of the environment and India, owing to its rich biodiversity, had a competitive edge in this respect. A link between the formal and informal systems of innovation needed to be established.

The future economies should expand within ecosystems which had limited regenerative capacities. Contrary to the neo-classical theory of continuous material growth, economic activities could undermine the potential for development through over-exploitation of natural resources.

In this context, new indicators like Gross Natural Product or Gross Ecological Product needed to be developed to measure economic development along with GNP and GDP.

Prof. R. Natarajan, Director, IIT, in his report, said that the Institute had embarked upon a process of review and reforms to improve the effectiveness of teaching and learning. Integration of theory and practical classes, enhancement of the relevance of academic programmes to real-life situations and provision of adequate industrial exposure were some of the objectives of this initiative.

(Contd. on Page 20)

SPREAD SHEET

Social Indicators of Development for India through the Planning Era (4)

Item	Pre-Plan	II Plan	III Plan	IV Plan		V Plan	Annual Plan	VI Plan		VII Plan	Annual Plans		VIII Plan (Projections)	
	1950-51	1960-61	1965-66	1970-71	1973-74	1978-79	1979-80	1980-81	1984-85	1989-90	1990-91	1991-92	1992-93	1996-97
Area and forest reserves														
Density of population (pop/sq km)	117.0	142.0	150.0	177.0	179.4	200.8	205.4	216.0	228.2	251.6	273.0	*	*	286.3
Agricultural land (availability per person)	0.638	0.503	0.455	0.410	*	0.388	0.360	0.356	0.332	0.302	*	*	*	*
Forest and Woodland (availability per person)	0.113	0.124	0.127	0.115	*	0.110	0.102	0.099	0.090	0.082	*	*	*	*
Total annual deforestation rate (per cent)	*	*	0.3	*	*	*	*	0.5	0.5	0.5	*	*	*	*
Fuel and Power														
Per capita consumption of energy from petroleum products in kgs	7.5	13.2	18.0	30.5	31.8	*	39.6	40.5	45.8	58.2	63.2	67.1	*	*
	(1951-56)													
Per capita consumption of electricity (domestic) (m Kwh)	2.4	3.4	4.8	7.0	8.1	19	12.1	13.5	21.0	36.1	38.2	42.1	45.4	*
Housing														
Households (number in millions): Total	*	83.3	*	97.1	*	*	*	122.6	*	*	160.6	*	*	209.2
Rural	*	68.6	*	78.0	*	*	*	93.5	*	*	113.5	*	*	137.0
Urban	*	14.9	*	19.1	*	*	*	29.1	*	*	47.1	*	*	72.2
Housing stock (in million units): Total		79.3		93.0				116.7			129.6			168.2
Rural		65.7		74.5				88.7			92.9			111.5
Urban		14.1		18.5				28.0			36.7			56.2
Shortage of housing (in million units): Total	9.0	15.2	*	14.5	*	*	*	21.1	27.0	28.5	31.0	*	35.9	41.0
Rural	6.5	11.6	*	11.6	*	*	*	16.1	18.5	19.3	20.6	*	23.2	25.5
Urban	2.5	3.6	*	2.9	*	*	*	5.0	8.5	9.2	10.4	*	12.7	15.5
No of people living in slums (in millions)	*	*	*	*	*	*	*	27.9	33.1		48.8	51.2	*	*
percent of homeless (figures in brackets are absolute numbers in thousands)	*	0.29	*	0.36	*	*	*	0.34	*	*	*	*	*	*
		(1265.0)		(1986.0)				(2343.0)						
Investment in housing to the total investment in the economy in respective plans (in percentages)	34.0	19.0	15.0	12.0		9.3	*	12.5		9.0	*	*	*	*
Per cent of people with access to water supply and sanitation														
Rural water supply	*	*	*	*	*	*	*	31.0	56.3	73.9	88.0	78.4	*	100.0
Rural sanitation	*	*	*	*	*	*	*	0.5	0.7	2.4	3.0	2.7	*	5.0
Urban water supply	*	*	*	*	*	35.0	*	77.8	72.9	83.8	84.0	84.9	*	94.0
Urban sanitation	*	*	*	*	*	38.0	*	27.0	28.4	43.9	47.0	47.9	*	69.3
Transport and Communication														
Total road length (km) per 1,000 persons	1.11	1.19	1.57	1.67	*	2.04	2.23	2.17	2.26	2.35	2.38	*	*	*
Number of registered commercial vehicles per 1,000 persons including goods vehicles and buses	0.33	0.51	0.85	1.11	*	1.41	2.01	2.23	3.13	4.26	4.73	5.02	*	*
Availability of post offices per 1,00,000 population	10.0	17.5	19.8	19.9	*	19.5	20.8	20.3	19.4	18.2	17.6	*	*	*

*denotes information not available

Notes: (i) Years representing as column heading do not always correspond to the respective Five Year, or, Annual Plan periods (e.g. the year 1978-79 for the Fifth Plan period).

(ii) Again, the data presented generally pertain to the years indicated in the table though in some cases they pertain to the periods close to those years.

Source: EPW Research Foundation: Social Indicators of Development for India - 1, *Economic & Political Weekly*, May 14, 1994.

(Contd. from Page 17)

The Institute was involved in 55 sponsored research projects which had a total value of Rs. 84.117 millions. Its contributions were acknowledged by institutions like ISRO and Aeronautics R and D Board. There were several collaborations with foreign institutions.

Dr. M.S. Swaminathan, eminent agricultural scientist and Chairman of the Board of Governors, IIT, Madras in his address, stressed the importance of the intellectual property rights and biodiversity.

900 degrees, including 144 PhD, 60 M.S., 318 M.Tech., 74 M.Sc. and 334 B.Tech. degrees, were awarded at the convocation. The President of India prize for the best academic record was won by Mr. Madan Lal M.S., B.Tech. student in computer science and engineering. The Governor's prize for over-all proficiency in the B.Tech. programme was won by Mr. Amit Nag of the Civil Engineering department.

Analog Devices & IIT Madras Collaborate

Analog Devices Inc, a United States based semiconductor manufacturer is reported to have teamed up with the IIT, Madras and the Midas Communication Technologies Private Limited to develop a Digital Enhanced Cordless Telecommunication (Dect) based Wireless Local Loop (WLL) system called 'Corpect'.

The Corpect will provide a cost effective solution to the installation of telephone services in India.

The pair of costly cables that links the exchange and the subscriber's premises in the conventional system which is the major bottleneck in expanding the ser-

vices in India at a fast pace had been overcome with the development of Corpect which is now being field tested at Adyar exchange in Madras.

The newly developed technology was unveiled in Madras recently by Mr Ray Stata, chairman and chief executive of Analogue Devices, Dr R Natarajan, director of IIT and top executives of collaborating partners and licensees.

The system is expected to be commercialised in India next year.

While IIT has undertaken concept and design of the new device, Analogue Devices provided integrated circuits and Midas Communication the expertise.

The Department of Telecom had provided the use of WLL technology in the bids for basic telecom services in India, Mr Stata said.

Once the hardware is available in the exchange, telephone services can be provided on demand.

A subscriber will have a wall unit and a hand set besides a wall or roof mounted antenna. Since underground or overhead cables are not involved there is no servicing as well.

Tapping a phone will also be difficult in the new system as messages are encrypted according to international standards.

Four Indian firms — Crompton Greaves Limited, Electronics Corporation of India Limited, Shyam Telecom Limited and Westel Wireless Limited — have been licensed by the Analogue Devices to manufacture the devices in India.

The Corpect WLL system pro-

vides an alternative to the cable from the street junction box to the subscriber with wireless access points over a neighbourhood. Corpect remotely powered base stations are installed in neighbourhood without the need for frequency planning. Subscribers are attached to these base stations via a radio link.

It limited neighbourhood mobility while ensuring quality as provided by a regular wired connection.

New Courses at Delhi University

The Academic Council of Delhi University, at one of its recent meetings, took several decisions which are expected to have significant implications on the working of colleges.

The decisions include : (i) A full-time four semester programme of a professional course, 'Master of Accounting and Information' to be introduced by the Department of Commerce from this academic year. The introduction of the course, though initiated at the request of the Government of Ethiopia, will be designed to cater to the needs of the professionals, senior executives, technocrats. The course is also open to Indians; (ii) A syllabus for B.A. (Hons) course in Dzongkha to be introduced by the Sherubste College of Delhi University in Bhutan; (iii) Approved a scheme of examination and courses of reading for a M.Tech course in Information System proposed by the Faculty of Technology. The Council also approved the minimum eligibility conditions for admission to M.Tech course in the Faculty of Technology; (iv) Approved the recommendations of the Department of Mathematics regarding the introduction of a new M.Phil syllabus; (v) Adopt-

ing amendments to relevant Ordinances of the university for creating 'Department of Physical Education and Sport Sciences' inclusion of the 3-year B.Sc (Physical Education, Health Education and Sports) course. Addition of two-year Master of Physical Education and Sports course; (vi) The creation of teaching posts in various departments for North and South campus under the VIIIth plan allocation, approved by the University Grants Commission; (vii) Fulfil the constitutional commitment to the SC/ST; and (viii) The total number of seats for admission for the sons and daughters of university and college employees (teaching and non-teaching) who are working in the university and colleges in courses other than professional courses, courses where there are admission tests, be given on the basis of merit among such candidates subject to one seat for every 60 students (ordinarily in a course) and subject to fulfilment of minimum eligibility. Admissions will be over and above the normal strength.

Access to Electronic Information

The 16th Annual Convention and Conference on "Access to Electronic Information (AEI)" will be held at Bhubaneswar on 29-31 January, 1997. Jointly organised by the Department of Lib. & Inf. Science, Utkal University, Institute of Physics, and Regional Research Laboratory, Bhubaneswar, the conference will focus on the present revolutionary changes, challenges, responsibilities and future probabilities in accessing the electronic information. The topics proposed to be discussed at the conference include (i) Electronic Information Sources in Science & Technology,

Health, Social Sciences, Legal, Business and Commerce; (ii) Digital Libraries — Trends and issues; (iii) Electronic Document Imaging Systems; (iv) Multimedia; (v) Knowledge bases; (vi) Electronic Publishing — New Techniques, Standards and Tools for Publishing (HTML, SGML and other authoring systems), On-line journals, CD-ROM publications, Bibliographic databases; (vii) On-line Access to Electronic Information — On-line database vendors, Relevance of on-line databases; (viii) Electronic Document Delivery; (ix) Electronic Communication — Teleteaching, Telemedicine, Teleconferencing, Reaching remote clients; (x) Information Superhighway — Information sources/resources on INTERNET, INTERNET browsers (GOPHER, NETSCAPE, WWW, JAVA), Virtual libraries and Electronic Invisible Colleges; (xi) Electronic Information in the Networked Environment — Pricing, licensing, sharing, accuracy & negotiations; (xii) Challenges of AEI to Society, Entertaining industries, Traditional industries, Educational institutions, Research institutions, Library schools, Authors, Editors and Readers; (xiii) Copyright and Intellectual Property Right issues related to Electronic Information; and (xiv) Role of Information Professionals/Intermediaries in AEI.

Further details may be obtained from Dr P. Padhi, Organising Secretary, SIS-97 C/o Department of Library & Information Science, Utkal University, Vani Vihar, Bhubaneswar-751 004.

Korea Foundation Grant for JNU

The Jawaharlal Nehru University is reported to have got a grant of US \$45,000 from the Seoul-based Korea Foundation to

establish a permanent endowment for developing Korean studies at JNU.

The endowment will be utilized to permanently maintain a professorship in the Korean language at the School of Languages, thus developing the Korean language programme at the university.

Ambassador of the Republic of Korea Mr. Byung Yong Soh, while giving the cheque to JNU acting vice-chancellor Dr. Asis Dutta said, "This will further strengthen the Indo-Korean friendship."

An agreement between the Foundation and the University under which the grant has been extended and the "Korea Foundation Professorship" established, provides that the salary and academic expenses of the newly to be appointed professor will be met with interest, dividend and other incomes of the endowment.

The University will select and appoint a professor to conduct lectures from the 1996-97 academic year.

JNU presently has a running Korean studies programme which besides M.Phil and Ph.D courses, offers a three year degree course in Korean language.

Workshop on Biodiversity

A two-day workshop on "Biodiversity Awareness Integration through Documentation of Indigenous Knowledge-BAIDIK" was organised recently, by the Centre for Environment Education, Lucknow.

Inaugurating the workshop Prof S.P. Singh, Vice-Chancellor, Lucknow University, emphasised

the need to develop interest among students about the traditional wisdom in use of plant and animal resources. He cited several examples of indigenous plants such as Neem, Tulsi, Peepal, which were being used to cure chronic illnesses.

Prof Singh announced that he would start a course related to the theme of the workshop at the graduate-level in the university.

Mr R. S. Bhadauria, former principal chief conservator, Forest Department, UP, in his keynote address, gave detailed account of his experiences in the area of biodiversity conservation in UP.

Professor Devendra Sharma, former Vice-Chancellor, Gorakhpur and Indore Universities, who presided, called upon the teachers and NGOs to propagate the message of conservation and our indigenous knowledge among students and the society.

IIM, Bangalore-MIT Sign MoU

The Indian Institute of Management, Bangalore, and the MIT Sloan School of Management, US are reported to have signed a MoU to offer management education programmes pertaining to India. According to IIMB Director, Prof K R S Murthy and Dean of MIT Sloan, Mr Glen Urban, the first programme on "Global technologies and management of change" would begin from April 1997. Prof Murthy said the programme would include training modules and organisation specific projects at IIMB and MIT Sloan.

Initially, a three-week programme will be offered comprising three modules on "Key chal-

lenges faced by Corporations in India in the new environment", "Challenges due to rapid changes in technology" and an organisation specific project.

Correspondence Courses

Prof Rakesh Khurana, Pro-Vice-Chancellor of Indira Gandhi National Open University (IGNOU) announced that Correspondence Course Institutes (CCIs) in India would soon be upgraded to distance education mode. Presenting a paper on 'Open and Distance Education in India' at a SAARC workshop on Open Learning at Colombo recently, he stated that a joint committee of University Grants Commission (UGC) and Distance Education Council (DEC) appointed this year was organising planned transformation of the CCIs. The guidelines for the transformation of the CCIs were evolved by the Working Group of DEC and high-level committee of Vice Chancellors of 18 universities having CCIs. The guidelines include suggestions or providing greater autonomy to CCIs in administrative, academic and financial matters, evolving fresh norms for grants to

CCIs by UGC on the basis of per capita cost, proper student-teacher ratio, multi-media facilities needed, teachers' training and developmental requirements. They also include spending of surplus funds generated by the CCIs to its own quality improvement and transforming correspondence instructional material to multi-media.

Bihar Passes Quota Bills

Two bills seeking provision of 50 per cent reservation of seats for admission in colleges and all the faculties in universities in Bihar were recently passed by the state legislative assembly. The bills, namely, Patna University (Amendment) Bill, 1996 and Bihar State University (Amendment) Bill, 1996 seek 14 per cent reservation for scheduled castes, 10 per cent for scheduled tribes, 14 per cent for extremely backward class, 10 per cent for backward class and two per cent for women belonging to backward class.

Besides this, the bills seek that students belonging to above categories if compete with the candidates of general category, will then not fall within the reserved quota of 50 per cent.

News from Agricultural Universities

PG Diploma in Agricultural Journalism

A one-year postgraduate diploma course in Agricultural Journalism was recently introduced at the Chaudhary Charan Singh Haryana Agricultural University (CCSHAU). Inaugurating the course, Dr. D.P. Singh, Dean, College of Agriculture of the university said that Agricultural Journalism had not kept pace with the agricultural and rural development achieved by the nation

after independence. He regretted that instead of filing their news stories after observing the problem in rural areas, many of the journalists and reporters confined themselves to the reporting of political and social milieu of the urban life.

Applauding the efforts of the Academy of Agricultural Research and Education Management (AAREM) of the university

in promoting the agricultural journalism and human resources at the university, Dr. Singh said that refresher courses conducted by the AAREM would go a long way in sensitizing the scientists, teachers and employees towards the need of skill enhancement.

Prof. V.S. Gupta, Course Director, said that the course had been introduced primarily to acquaint the participants with the role and principles of agricultural journalism, communication development and also to acquaint them with the writing skill so that they could prove still better and efficient teachers. He said that 40 participants from host university and other states like J&K, Tamil Nadu, West Bengal would be participating in the course. Senior professionals from the field of journalism and national institutions would educate and guide the participants through contact

session, practical exercises, project work, group discussion and practical training, etc.

Dr. R.D. Sharma, Director (Publications), Indian Council of Agricultural Research and Prof. M.R. Dua of Indian Institute of Mass Communication also addressed the participants.

Dr (Mrs) Indu Grover, Acting Director of the host institute (AAREM), revealed that the courses on Computer Education for Agricultural Scientists and Communication and Reporting Skills would shortly be organised by the Academy.

We Congratulate.....

Dr. J.B. Chowdhury who has been appointed Vice-Chancellor of the Chaudhary Charan Singh Haryana Agricultural University, Hisar.

News from UGC

Countrywide Classroom Programme

Between 23rd and 31st August, 1996 the following schedule of telecast on higher education through INSAT-ID under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 6.00 a.m. to 7.00 a.m. and 1.00 p.m. to 2.00 p.m. The programme is available on the TV Network throughout the country.

1st Transmission

6.00 a.m. to 7.00 a.m

24.8.96

"Perils of Age — The Indian Experience"
"Vastuprakash"
"Lost Childhood"

25.8.96

"The Gene Story"
"The Khatamband"
"The Week Ahead"

27.8.96

"Question Time"
"Aquatic Fungi"
"Maxillofacial and Oral Surgery-Part II"

29.8.96

"Supermolecules—From Chemistry to Biology"
"Maharo Rajasthan"
"Amudha—The Iron Woman of India"

31.8.96

"Sense of Behaviour"

"Dance Depicts Life"

"Exploding Myths: Population Pressures"

2nd Transmission

1.00 p.m. to 2.00 p.m.

23.8.96

"Cauchy's Mean Value Theorems-Part IV"
"Come Share my World"
"Protection of Japanese Crested IBIS"

24.8.96

"When Art and Science Meet-Part I"
"Chinese Puppet Art"

25.8.96

No Telecast

26.8.96

"The Week Ahead"
"Tiny is Beautiful"
"Desertification and its Control"

27.8.96

"Iron Ore: Occurrence and Mining"
"Heterojunction Light Source"
"Endocrine System"

28.8.96

"Overhead Projector"
"Population of India — Some Perspectives"
"Geneology Testing by Genes"

29.8.96

"Dashavatara-Part II"
"Life Line Express"
"American Literature: David Swan—a Fantasy"

30.8.96

"Application of Technology Tools Through Multimedia"
"A Shelter"
"The Samanthas : An Anthro Vision"

31.8.96

"When Art and Science Meet-
Part II"

"The Voyager: The Grand
Tour"

"Iodine Deficiency to Simple
Goitre"

Hindi Telecast

प्रातः 6.00 से 6.30 बजे तक

23.8.96

"कबीर वाणी भाग - IV"

"एक कबीर, कितने पाठ"

26.8.96

"अम्ल क्षारक अनुमापन के
उपयोग"

28.8.96

"हेरीटेज ऑफ तन्जावूर —
सरस्वती महल"

"एनीमिया"

30.8.96

"बच्चों का पोषण और स्वास्थ्य"

Glass as Bone Material

Glass could be used to re-build shattered face and neck bone, according to University of Sheffield researchers. They claim the "bone friendly" material is much better than metal or plastic used in reconstruction surgery.

Paul Hatton, lecturer in bio-materials at Sheffield, said that clinical trials could begin within three years if they won funding from the European Union.

He said: "Glass has properties enabling it to respond to bone which metals and plastic just don't have. It can also be customised to meet the patient's needs and is durable. It won't shatter with a blow to the face."

"Climbers who fall, hang gliders who crash and road accident victims are most likely to benefit from the new treatment" said Dr Hatton.

He and his team at the glass research centre have been working on the project for about 18 months and have applied for \$700,000 from the EU which they hope to receive in September. The money will allow them to carry on their research and launch clinical trials before the turn of the century.

The material, said Dr Hatton, was handled just like window glass but heated to create a ceramic which was then moulded to shape. Metal implants used to repair broken hips and legs could also be coated with the material to help bonding.

He said: "Sometimes you can see the sheen of a metal implant under the skin of the face. You wouldn't have that with glass. But it is unlikely that the glass ceramic would be strong enough to be used alone to repair hips and legs."

News from Abroad

Promoting Commonwealth Studies

The Commission on Commonwealth Studies has called for universities in the Commonwealth to work together to help address the "truly appalling" lack of awareness and understanding of the grouping.

The final report of the commission was launched in London recently by the Commonwealth Secretary-General, Chief Emeka Anyaoku. He said it was up to governments and the academic community to seize on the recommendations and foster an environment where Commonwealth studies could flourish.

The nine-member commission, chaired by Thomas Symons of Trent University in Canada, was appointed in June last year to assess Commonwealth studies in higher education around the Commonwealth.

The report states that the value of comparative studies in a Commonwealth context has not been fully recognised and, considering the practical and academic value of Commonwealth studies, too little is being done.

"It is indeed ironic that the

academic legitimacy and importance of Commonwealth studies has often been better understood in countries outside the Commonwealth than at universities in its member states," it said.

The commission found no complete undergraduate degree course in Commonwealth studies in member nations' universities and only a small number of coursework masters programmes.

But many offer postgraduate research degrees in some area of Commonwealth studies and there is a considerable amount of work of varying relevance being undertaken by research students.

A key recommendation is that governments and the academic community should consider establishing centres for the study of certain areas of contemporary concern and link these into a network.

Universities that have special expertise are urged to create centres of specialisation in aspects of Commonwealth studies, and expand twinning and exchange arrangements.

BOOK REVIEW

Improving Spoken English

R.K. Singh*

S. Malaikkani. *Better Learning and Teaching of Spoken English*. Karaikudi, Ganesh Brothers, 1995. Pp. 56. Rs. 20/-.

There is no denying the fact that 'Speaking' skill is rated higher than 'reading' or 'writing' skill and the General English syllabuses still do not provide for its teaching or practice in the classroom. Also, unless properly taught, the motivation to learn or practise the skill is quickly lost, mainly due to lack of relevant learning opportunities/environment.

While one talks about providing a practical guide for teaching/learning spoken English, one also needs to appreciate the specific student roles (in terms of the student as *learner*, the student as *language user* and the student and *careers* etc), the learning environment (e.g. the physical environment, the socio-cultural environment, and the larger human environment), and the *academic system* (in which the student works) if one really wishes to develop oral fluency and accuracy in the English as a second language/foreign language situation.

But, perhaps it is also a sound principle that talking in English as often as possible can help learners to both learn English and also to develop the ability to communicate *easily and naturally*. Who can help if the teacher worries about the correct usage or pronunciation or models like R.P.,

GIE etc. instead of offering possibilities for students to express their own feelings and opinions, using their imagination freely? As a teacher of English, if one provides the students with activities that challenge their linguistic, intellectual and imaginative capacities, or succeeds in involving the students in *what* they are talking about, one has done the job well. Let's accept that different students will be able to operate at different levels, in different ways, perhaps when they are participating in the same tasks.

S. Malaikkani's book is not a research study *per se* (it may be the outcome of a short project assignment, or perhaps, part of a postgraduate work), yet it provides some useful information and a perspective for teaching 'Spoken English' in a context riddled with confusion of all sorts.

The author seeks to "present the findings of various research scholars on materials and methods of spoken English in a simple manner (giving special importance of Tamilian English)" though the ambition to guide the Tamil Speakers "in the right direction to develop fluency in Spoken English" (*Preface*) is a bit much, as the book is hardly helpful to students in self-study.

The generalised presentation (i.e. findings of a couple of workshops/seminars on Spoken English, motivation for learning English, difference between spoken

and written English, difference between the traditional and modern methods of teaching spoken English, importance of listening skills, ways to promote spoken English and theories like audio-lingual, suggestopaedia, etc) with emphasis on teaching *correct pronunciation* (p.6) and mastering *sound system* of English (p. 8) may or may not help the target audience of the book in acquiring the actual skill but there is sense in the suggestion that both the teachers and students should listen to the radio programmes, especially the BBC, VOA, AIR and Door-darshan news bulletins besides using the available audio-cassettes to improve intelligibility of their speech. -

The author also refers to researches that highlight certain characteristic difficulties the Tamil speakers of English face in communication. These are largely the influence of mother tongue (mostly related to stress and articulation of English vowels and consonants), but when he discusses intelligibility, he has the native speakers alone in mind (as if the Tamil speakers of English learn the language only to talk to English people).

The micro dialogues in the Appendix provide some common conversational English phrases to help the beginners just as the bibliography and definition of certain words may help the School level teachers to improve their own background.

Malaikkani's book on the whole should provide an insight to the interested teacher with relevant exposure at secondary level to practise speaking skills profitably in the classroom if other learning materials (or audio-visual aids) are also available.

*Professor & Head, Department of Humanities & Social Sciences, Indian School of Mines, Dhanbad-826 004.

RESEARCH IN PROGRESS

A list of research scholars registered for doctoral degrees in Indian Universities

HUMANITIES

Philosophy

1. Brijesh Singh. *Gandhi evam Jain dharam ke anusar vrat vichar*. BHU. Dr Kripa Shankar, Department of Philosophy, Banaras Hindu University, Varanasi.

2. Dhanju, Poonam. *Structure of value experience : A critical study of Nicolai Hartmann and Max Scheler*. Panjab. Dr V T Sebastian, Department of Philosophy, Panjab University, Chandigarh.

3. Diwaker, Anil Kumar. *Mahatma Gandhi evam Vinoba Bhave ke samaj darshan ka tulanatmak adhyayan*. BHU. Dr D B Chaube, Department of Philosophy, Banaras Hindu University, Varanasi.

4. Kailash Nath. *Mahatma Gandhi ke naitik vichar*. BHU. Dr Kripa Shankar, Department of Philosophy, Banaras Hindu University, Varanasi.

5. Mishra, Hridaya Narayan. *Samakaleen chintan mein manav ka swarup : Astittvavadi dristikon mein*. BHU. Dr Munni Kumari Agrawal, Department of Philosophy, Banaras Hindu University, Varanasi.

6. Shivyogi, Hiremath Swami. *A critical study of Lingadharana Chandrika*. BHU. Prof K N Mishra and Dr K P Mishra, Department of Philosophy, Banaras Hindu University Varanasi.

7. Shukla, Manisha. *Gandhi evam Vinoba kee Geeta drihti: Ek adhyayan*. BHU. Dr U C Dubey, Department of Philosophy, Banaras Hindu University, Varanasi.

8. Singh, Dharendra Pratap. *Kabir ka samaj darshan*. BHU. Dr D B Chaube, Department of Philosophy, Banaras Hindu University, Varanasi.

9. Singh, Pramod Kumar. *Bauddha darshan mein Kashmiri Bauddhon ka avadan*. BHU. Dr D B Chaube, Department of Philosophy, Banaras Hindu University, Varanasi.

10. Srimanta, Phramaha Chainrong. *A comparative study of Jaspers's philosophy and early Buddhism on human condition and temporality*. Panjab. Dr Indu Sarin and Dr Dharmanand Sharma, Department of Philosophy, Panjab University, Chandigarh.

11. Tripathi, Balkrishna. *Prakash mein Sankhyakarika tatha Shrimad Bhagwat mein varnit Sankhya ka sameekshatmak adhyayan*. BHU. Dr M R Mehta, Department of Philosophy, Banaras Hindu University, Varanasi.

12. Yadav, Ashok Kumar Singh. *Samkaleen Bharatiya darshan mein moksha kee avadharana*. BHU. Dr Urmila Chaturvedi, Department of Philosophy, Banaras Hindu University, Varanasi.

Religion

1. Chandaran, Saen. *Recent trends in Buddhism in India*

and Thailand. BHU. Prof K N Mishra and Dr S Vijaya Kumar, Department of Religion, Banaras Hindu University, Varanasi.

2. Chatmethie, Phramaha Suchart Hongsa. *Evolution of the concept of the middle path*. BHU. Dr K C Jain, Department of Pali and Buddhist Studies, Banaras Hindu University, Varanasi.

3. Kalpana. *Jain dharma mein Parmatma ka swarup evam sthan*. BHU. Prof S M Jain, P V Research Institute, ITI Road Varanasi and Dr D B Chaube, Dept of Philosophy and Religion, BHU, Varanasi.

Fine Arts

1. Mukherjee, Soma. *Lion in early Indian art*. BHU. Dr T K Biswas, Department of History of Art, Banaras Hindu University, Varanasi.

2. Pandey, Nitya. *Banaras State ka itihās evam kala*. BHU. Dr Dinabandhu Pandey, Department of History of Art, Banaras Hindu University, Varanasi.

3. Paul, Sujith Kumar. *Traditional art of Bengal*. BHU. Shri T Santikari, Department of Plastic Arts, Banaras Hindu University, Varanasi.

Sculpture

1. Kovoov, Thomas John. *Depiction of death and life after death in sculpture*. BHU. Prof B S Katt, Department of Plastic Arts, Banaras Hindu University, Varanasi.

2. Mishra, Pradosh Kumar. *The workshop tradition of Orissan sculpture with special reference to the master-artist Khirod Chandra Maharana of Lalitagiri*. Panjab. Dr B N Goswamy, Department of Fine Arts, Panjab University, Chandigarh.

3. Pandey, Krishna Murari. *Buddha kee murtiyan : Pratima vaigyanik adhyayan*. BHU. Dr Dinabandhu Pandey, Department of History of Art, Banaras Hindu University, Varanasi.

Drawing & Painting

1. Harpreet Singh. *Depiction of human elements in contemporary Indian arts*. BHU. Dr R N Mishra, Department of Painting, Banaras Hindu University, Varanasi.

2. Sisodiya, Dharendra Bahadur. *Samkaleen Bharatiya chitron mein atiyathartha vadi tattva : Ek adhyayan*. BHU. Dr A K Singh, Department of Painting, Banaras Hindu University, Varanasi.

Music

1. Chaturvedi, Rekha. *Bharatiya shastriya sangit per sanskriti evam prakriti ka prabhav*. BHU. Dr (Mrs) Krishna Chakravarty, Department of Instrumental Music (Sitar), Banaras Hindu University, Varanasi.

2. Garg, Renu. *Khyal aur thumri gayan mein tabla sangti kee bhumiika*. Panjab. Dr (Mrs) Pankaj Mal Sharma, Department of Music, Panjab University, Chandigarh.

3. Kamala, S. Guitar ke vikas tatha unka Bharatiya shastriya sangeet mein pravesh tatha gayaki anga ke drishtikon se vishesh vichar : Visheshatah Havaian guitar ke sandarbha mein. BHU. Prof C R Jyotishi, Department of Vocal Music, Banaras Hindu University, Varanasi.

4. Majumdar, Purabi. Vishwavidyalayeeya vyavastha mein sangeet vishya ke pragati evam samasyaon ka vishlesanatmak adhyayan. BHU. Dr (Mrs) Archana Dixit, Department of Vocal Music, Banaras Hindu University, Varanasi.

5. Sakalkar, Revati. Manodaihk vyadhiyon ke chikitsa mein sangeet ke yogdan ke sambhavanaon ka adhyayan. BHU. Dr (Mrs) Archana Dixit, Department of Vocal Music, Banaras Hindu University, Varanasi.

6. Saradha, S. Music education. Kerala. Dr K Omanakutty, Prof and Head, Department of Music, Government College for Women, Thiruvananthapuram.

7. Thielemann, Selina. Vaishnava temple music traditions in Varja. BHU. Prof (Miss) Prem Lata Sharma, Department of Musicology, Banaras Hindu University, Varanasi.

Language & Literature

English

1. Amrik Singh. Revisioning of black consciousness in the selected novels of Toni Morrison. Panjab. Dr Rana Nayar, Department of English, Panjab University, Chandigarh.

2. Ansarin, Ali Akbar. A study of interlanguage communication strategies of Iranian EFL learners. Panjab. Dr Pushpinder Syal, Department of English, Panjab University, Chandigarh.

3. Chagla, M S. Marxian thought in the plays of Harindra Nath Chattopadhyaya. BHU. Dr S R Jalote, Department of English, Banaras Hindu University, Varanasi.

4. Fatemi, Azar Hosseini. The role of input in shaping the interlanguage system of Iranian and Indian learners of English : With focus on noun clauses and adjective clauses. Panjab. Dr Gyan Verma, Department of English, Panjab University, Chandigarh.

5. Kaushik, Sharda. Departures from the mother variety of English in India : A study of the need regarding standardization for teaching purposes. Panjab. Dr Pushpinder Syal, Department of English, Panjab University, Chandigarh and Dr D D Jyoti, 663, Sector 11, Chandigarh.

6. Madhumathy, R. The outsider-insider perspective : The African encounter in the novels of Doris Lessing and Nadine Gordimer. Kerala. Dr A Jameela Beegum, Prof, Institute of English, University of Kerala, Thiruvananthapuram.

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8. Mishra, P. Conformity and revolt in the novels of R K Naryayan. BHU. Dr P K Pandey, Department of English, Banaras Hindu University, Varanasi.

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ment in the EFL classes : A study of Iranian college level students. Panjab. Dr Gyan Verma, Department of English, Panjab University, Chandigarh.

10. Rajinder Kumar. The infinite in Indian English poetry : A comparative study in theme and form with special reference to Tagore, Sri Aurobindo, Vivekananda and Swami Rama Tiratha. Panjab. Dr D D Jyoti, 663, Sector-11, Chandigarh.

11. Sanjit Kumar. Nissim Ezekiel's poetic theory and practice. BHU. Dr S N Pandey, Department of English, Banaras Hindu University, Varanasi.

12. Shukla, Manjari. Contemporary English poetry of the Indian diaspora in America. BHU. Dr M S Pandey, Department of English, Banaras Hindu University, Varanasi.

13. Singh, Prem Shankar. Andrew Marvell : Major Themes and techniques in his poetry. BHU. Dr N K Lal, Department of English, Banaras Hindu University, Varanasi.

14. Yohannan, Rizio B. An oriental interpretation of the existential dilemma in select literary texts. Kerala. Dr Jancy George, Reader, Institute of English, University of Kerala, Thiruvananthapuram.

Sanskrit

1. Chatterjee, Indrani. Sanskrit evam Ayurveda sahitya mein Brahmand Puran ka sameekshatmak adhyayan. BHU. Dr L P Gupta, Department of Basic Principles, Banaras Hindu University, Varanasi.

2. Geetha Kumari. Kathopanishad : A study based on Sankara's commentary. Kerala. Dr K Maheswaran Nair, Reader, Department of Sanskrit, University of Kerala, Thiruvananthapuram.

3. Lashkar Singh. Application of principles of Sanskrit dramaturgy in Macchakita and Mudrarakashasa. Panjab. Dr Parbhat Singh, Visheshvaranand Vishwabandhu Institute of Sanskrit and Indological Studies, Panjab University Hoshiarpur.

4. Malaviya, Ratna. Shiva-gita tatha Vishnugita : Ek tulanatmak adhyayan. BHU. Dr J G Ratate, Department of Sanskrit, Banaras Hindu University, Varanasi.

5. Mishra, Shiva. Mahabharat Karna-Parva : Ek sameekshatmak adhyayan. BHU. Dr (Miss) Usha Sharma, Department of Sanskrit, Banaras Hindu University, Varanasi.

6. Pathak, Ajay Kumar. Valmiki Ramayan Aranya Kane : Ek sameekshatmak adhyayan. BHU. Dr V K Varma, Department of Sanskrit, Banaras Hindu University, Varanasi.

7. Pawan Kumar. Helarajakrita Prakirnakaprakasa ke visesa sandarbha mein kriyarthavislesana. Panjab. Dr Virendra Kumar, Department of Sanskrit, Panjab University, Chandigarh.

8. Pratibha Devi. Padmapurana evam Jain Padmapuran ka tulanatmak adhyayan. BHU. Dr A K Singh, P V Research Institute, ITI Road, Varanasi and Dr R P Dwivedi, Dept of Sanskrit, Banaras Hindu University, Varanasi.

9. Premvati. Devi Bhagwat ka sameekshatmak adhyayan. BHU. Dr R S Chaturvedi, Department of Sanskrit, Banaras Hindu University, Varanasi.

10. Pushpangadan, G. Sree Narayanaguru and his Musee. Kerala. Dr T Devarajan, Reader, Department of Sanskrit, University of Kerala,, Thiruvananthapuram.

11. Ranjana Kumari. Nara Narayanand : Ek sameekshatmak adhyayan. BHU. Dr P D Singh, Department of Sanskrit, Banaras Hindu University, Varanasi.

12. Sharma, Gori Raj. Bauddha-Yog evam Sankhya-Yog mein chika ka swarup : Ek tulnatmak adhyayan. Panjab. Dr Rama Kant Sharma, Department of Sanskrit, Panjab University, Chandigarh.

13. Sharma, Hanuman. Dr. Sant Bhiksu Shastri pranita Buddhavijaya kava ka sahityika adhyayana. Panjab. Dr Dhanraj Sharma, Department of Sanskrit, Panjab University, Chandigarh.

14. Sharma, Kiran. Vaidic evam laukik chhanda ka tulanatmak adhyayan. BHU. Dr Saraswati Singh, Department of Sanskrit, Banaras Hindu University, Varanasi.

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18. Yadav, Shyam Narayan. Shukla Yajurveda ka sanskritik adhyayan. BHU. Dr A K Srivastava, Department of Sanskrit, Banaras Hindu University, Varanasi.

Pali

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Punjabi

1. Bansal, Sunita. A comparative study of the poetry of Nissim Ezekiel and Prof Mohan Singh. Panjab. Prof Naresh, Bhai Vir Singh Studies in Modern Literature, Panjab University, Chandigarh.

2. Harjinder Singh. Concept of 'Chardi Kala' in Guru Nanak Bani. Panjab. Dr Darshan Singh, Department of Guru Nanak Sikh Studies, and Dr D P Singhal, Guru Ravi Dass Chair, Panjab University, Chandigarh.

3. Jagmail Singh. Bhai Kan Singh Nabha dee Punjabi sahit nu den. Panjab. Dr Darshan Singh, Department of Guru Nanak Sikh Studies, Panjab University, Chandigarh. and Dr B S Nanda, Panjabi University, Patiala.

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Hindi

1. Anju Kumari. Hindi upanayas per Bangla katha sahitya ka prabhav. BHU. Dr Shiv Karan Singh, Department of Hindi, Banaras Hindu University, Varanasi.

2. Ashok Kumar. Sundar Das ke kavya mein manav mulya. Panjab. Dr R D Singhal, Department of Hindi, Panjab University, Chandigarh.

3. Behl, Sunil. Guptkalin abhijatya ke sandarbh mein Kalidasa tatha Jai Shankar Prasad ka nataksahitya. Panjab. Dr Laxmi Narayan, Department of Hindi, Panjab University, Chandigarh.

4. Chatterjee, Pinku. Rabindra Nath Tagore kee anudit Hindi kahaniyon mein tatkalin nari patron kee yug chetana. BHU. Dr Ibha Gupta, Department of Hindi, Banaras Hindu University, Varanasi.

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bhakti. BHU. Dr N N Upadhyay, Department of Hindi, Banaras Hindu University, Varanasi.

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Urdu

1. Adil, Iftakhar. **Fasana-e-Azad ka tabrihi mutalea.** BHU. Dr Zafar Ahmad, Department of Urdu, Banaras Hindu University, Varanasi.

2. Ansari, Abdullah. **Mashahir-e-adab-e-Urdu, shoava 1900-1950.** BHU. Dr Rasheeda Khatoun, Department of Urdu, Banaras Hindu University, Varanasi.

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Bengali

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Tamil

1. Alagu, M. **Thanjai Ramalahdoss - or aayvu.** BHU. Dr N A Bharathi, Department of Indian Languages, Tamil, Banaras Hindu University, Varanasi.

Malayalam

1. Geetha, V N. **Papabodham Malayala natakathil.** Kerala. Dr P K Sumathykutty, Lecturer, Oriental Research Institute and Manuscripts Library, University of Kerala, Thiruvananthapuram.

2. Indira Thankachi, P. **Ithihasa prameyam Malayala novalil.** Kerala. Dr P K Sumathy Kutty, Lecturer, Oriental Research Institute and Manuscripts Library, University of Kerala, Thiruvananthapuram.

3. Madhavan, N. **Place names of the present Quilon District.** Kerala. Prof S Guptan Nair, Vishwabharathi, Perurkada P O, Thiruvananthapuram.

4. Murali, S. **Thina sankalpam Malayala novalil.** Kerala. Dr P Venugopalan, Reader, Department of Malayalam, Institute of Distance Education, University of Kerala, Kariavattom.

5. Vijayan Pillai, M. **Agyana kalalyude parinamam Malayala novalukalil - theranjedutha novelukale aspadhamaki oru padanam.** Kerala. Dr K Prasobhan, Prof Malayalam, Institute of Distance Education, University of Kerala, Kariavattom.

Telugu

1. Venugopal Reddy, Allareddy. **A critical study on the works of Dr B Gopala Reddy.** BHU. Dr G Trivikramaiah, Department of Telugu, Banaras Hindu University, Varanasi.

Geography

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8. Shrestha, Bishwo. Mass wasting hazards in parts of upper Seti-Gandaki Drainage Basin in Kaski, Nepal. BHU. Dr K N P Raju, Department of Geography, Banaras Hindu University, Varanasi.

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History

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2. Kameshwar Singh. Gupta kal mein Uttar Bharat ka arthik jeevan. BHU. Dr L Rai, Department of History, Banaras Hindu University, Varanasi.

3. Mishra, Chandresh Kumar. Gupta Kal mein audyogik vikas. BHU. Dr L Rai, Department of History, Banaras Hindu

University, Varanasi.

4. Moti Lal. Prachin Bharatiya arthik itihās per adhunik itihās lekhan. BHU. Shri Rakesh Pandey, Department of History, Banaras Hindu University, Varanasi.

5. Pandey, Subas Chandra. Harit Smriti : Ek sanakritik adhyayan. BHU. Dr Nisar Ahmad, Department of Ancient Indian History, Culture and Archaeology, Banaras Hindu University, Varanasi.

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Faculty position

1. Professor (4 posts)- one post each for Education, Chemistry, Linguistics and Ecology.
2. Reader (2 posts)- one each for Fine Arts & Life Science.
3. Lecturer (2 posts) - one each in Bengali and Physics.

Explanation :

Ecology includes Life Science, Zoology, Botany, Environmentology, Environmental Geography, Environmental Sociology, Environmental Economics, Environmental aspect of Geology, etc. Fine Arts stands for Visual Arts and includes — Drawing and Painting, Sculpture, Graphic, Commercial Art, Textile Designing, etc.

RESERVATION :

Post of lecturer in Physics is reserved for SC/ST.

Administrative posts :

1. One post of Registrar
2. One post of Assistant Librarian
3. One post of Controller of Examinations
4. One post of Deputy Registrar

Scale of pay and gross emoluments at the Minimum of the scale are as follows:-

Sl. No.	Post	Scale of pay	Gross monthly emoluments at the minimum
1.	Professor/ Registrar/ COE	Rs. 4500-150-5700-200-7300	Rs. 10,830/-
2.	Reader/ Deputy Registrar	Rs. 3700-125-4950-150-5700	Rs. 9,850/-
3.	Assistant Librarian/ Lecturer	Rs. 2200-75-2800-100-4000	Rs. 6,076/-

The prescribed application forms and particulars of qualification, experience, etc can be had either in person from the Personnel Section, Administrative building, Assam University by paying Rs. 15/- for one set of application form or by post sending a self addressed stamped envelope of size 23 x 10 cm. alongwith a draft of Rs. 15/- (fifteen) for one set of form, drawn in favour of the Finance Officer, Assam University on State Bank of India, REC Campus, Silchar, Code No. 7061 alongwith a requisition for application to the Registrar, Assam University, P.B. No. 63, Silchar-I, Assam. (Pin - 788001) on or before 10/9/96.

Complete application form must be accompanied by application fee of Rs. 50/- (Rs. 25/- for SC/ST/OBC/Physically Handicapped) in the shape of demand draft drawn in favour of Finance Officer, Assam University, payable on SBI, REC Campus, Silchar (Code - 7061) and may be addressed to the Registrar, Assam University, P.B. No.- 63, Silchar - 788001. Last date of receipt of application is 30/9/96.

The University reserves the right to negotiate with suitable persons who may not have applied formally. The University also reserves the right to fill up or not to fill up any post or to call only selected candidates for interview.

Assam University is a newly established teaching-cum-affiliating Central University which is now functioning from temporary accommodations. This advertisement is for the recruitment of fourth batch of teachers. The selected teachers and officers are expected to brave the initial inconveniences to take up the challenge of providing a strong academic foundation to the University with conviction, confidence and creativity.

P.S. Bhattacharjee
REGISTRAR

THE UNIVERSITY OF KASHMIR, SRINAGAR

BRIEF ADVERTISEMENT NOTICE

Applications on the prescribed forms which can be had from the University Office, Hazratbal, Srinagar by depositing Rs. 100/- in the University office or by sending a Bank Draft of the same value drawn in favour of the Registrar, University of Kashmir, cashable at Srinagar, are invited for the below mentioned posts. The applications should reach the office of the undersigned on or before August 31, 1996:-

1. PROFESSORS IN THE PAY SCALE OF Rs. 4500-150-5700-200-7300 IN THE DEPARTMENT/INSTITUTE/CENTRE OF :-

Arabic, Commerce, Electronics & Computer Science, (Plan post) Hindi, Islamic Studies (Plan Post), Media Education & Research Centre, Geology (Plan Post), Psychology (Plan Post), Pharmaceutical Sciences, Political Science, Sanskrit, Sociology, Special Assistance (Urdu available upto 1999).

2. DIRECTOR COMPUTER CENTRE (PLAN POST) IN THE PAY SCALE OF Rs. 4500-150-5700-200-7300
3. READERS IN THE PAY SCALE OF Rs. 3700-125-4950-150-5700 IN THE DEPARTMENT/CENTRE/INSTITUTE OF:-

Arabic (leave vac. upto 10.03.1997), Biochemistry, Botany, Centre of Central Asian Studies (Persian), Centre of Research for Development, Education, Electronics & Computer Centre (Electronics — One, Computer Applications — One) (Plan posts), Geography & Regional Development, History, Hindi, Islamic Studies (leave Vac. upto 31.05.1997), Law (One temp. One leave vac.), Library & Information Science, Mathematics & Statistics (Statistics only), Management Studies (Gen. Management/Organisation Behaviour, Plan Post), Physics, Political Science.

4. SENIOR RESEARCH OFFICER (TENURE POST) AVAILABLE IN POPULATION RESEARCH CENTRE IN THE PAY SCALE OF Rs. 3700-125-4950-150-5700:-

5. LECTURERS IN THE PAY SCALE OF Rs. 2200-75-2800-100-4000 IN THE DEPARTMENT/CENTRE/INSTITUTE:- Botany, Centre of Central Asian Studies (Economics), Economics, Geography & Regional Development, Home Science (purely on temp. basis), Foreign Languages (French), Law, Library & Information Science, Linguistics (Plan Post), Media Education Research Centre (Leave Vacs. up to 04.04.1998 & 22.04.1998), Physics, Pharmaceutical Sciences, Political Science, Persian.
6. LECTURER-CUM-SUPERVISOR IN THE PAY SCALE OF Rs. 2200-75-2800-100-4000 IN THE CENTRE OF CENTRAL ASIAN STUDIES:-
7. EDITOR-CUM-LECTURER IN THE PAY SCALE OF Rs. 2200-75-2800-100-4000 IN THE DEPARTMENT OF URDU.
8. LECTURER/SCIENTIFIC OFFICERS IN THE PAY SCALE OF Rs. 2200-75-2800-100-4000 IN THE DEPARTMENT OF PHYSICS.

8. SCIENTIFIC OFFICERS IN THE PAY SCALE OF Rs. 700-1600 (Un-revised) IN UNIVERSITY SERVICE & INSTRUMENTATION CENTRE.

10. ASSISTANT ENGINEER (Plan post) IN THE PAY SCALE OF Rs. 2200-75-2800-100-4000 IN AUDIO VISUAL RESEARCH CENTRE.

11. PLACEMENT OFFICER AND CASE ANALYST (Plan posts) IN THE PAY SCALE OF Rs. 2200-75-2800-100-4000 in the Department of Management Studies

Candidates are advised in their own interest to send six copies of their detailed curriculum vitae in advance alongwith the Bank Draft of Rs. 100/- then alone the bio-data will be entertained. However the candidates who have already applied for any post/s in response to advertisement notice number I/T of 1994 dated 09.02.1994, II/T of 1994 dated 28.3.1994, III/T of 1995 dated 20.02.95 & IV/T of 1995 dated

MOHANLAL SUKHADIA UNIVERSITY : UDAIPUR

ADVERTISEMENT NO. 4/96

22nd JULY, 1996

Applications are invited on prescribed application form for the following posts on regular basis. Application form alongwith details of qualifications etc. can be obtained from the Deputy Registrar (Recruitment), Mohanlal Sukhadia University, Udaipur-313001 on payment of Rs. 10/- by cash/I.P.O payable to Mohanlal Sukhadia University, Udaipur alongwith a self addressed envelope of 27x12 cms. with postal stamps of Rs. 3/- affixed on it (in case the application form is desired by post). **LAST DATE for receipt of applications is 2nd Sept., 1996.**

1. Associate Professor in Botany - 1
(Pay Scale Rs. 3700-5700)
2. Deputy Librarian - 1
(Pay Scale Rs. 3700-5700)
3. Assistant Librarian - 1
(Pay Scale Rs. 2200-4000)

The candidates who have already applied for these posts in response to our previous advertisement No. 1/92 dated 4.1.1992, 1/93 dated 6.2.1993, and 2/94 dated 14.6.1994, 1/95 dated 6.2.1995 need not apply again, but they may please send their Fresh BIO-DATA/Postal address to update the same.

GENERAL NOTE:

- 1 Number of post(s) may be increased or decreased without notice.
- 2 The University reserves the right not to fill up post(s) advertised.
3. Application received otherwise than on prescribed form shall not be entertained.
4. Application received in the office after the last date shall not be entertained.
- 5 Candidate(s) already in services should apply through proper channel.
- 6 Candidates belonging to SC/ST/DBC should indicate their category alongwith the copy of the certificate issued by the competent authority.
7. Candidate desirous to apply for more than one post should send separate application form for each post.

REGISTRAR

14.09.1995 may apply on plain paper.

For further details please see detailed advertisement notice No.F-10 (App-Gen) Adm/T/W/96 dated July 27, 1996. However, it may be pointed out but that for appointment to the post of Lecturers and equivalent teaching positions a pass in National Eligibility Test (NET) is a must.

NOTE:-

No postal orders will be accepted.

Mohammad Shafi Khan

DEPUTY REGISTRAR,

PERSONNEL & ADMINISTRATION

No:F40(App-Gen)Adm/T/W/95

University Campus,

Hazratbal, Srinagar

Dated: July 27, 1996.

DR R.M.L. AVADH UNIVERSITY FAIZABAD

CORRIGENDUM

Ref. Advertisement No. 1652 dated 11.6.96 published at page 36 of "University News" issue dated June 24, 1996.

Para 2 "Department of Electronics" be read as "Department of Solid State Physics and Electronics" In 10th line of the same para "Rural Economics" be read as "Economics & Rural Development" and last but two lines of the same para containing the word "Ancient History, Culture & Archaeology" may be read as "History, Culture & Archaeology".

Para 4 (iii) in last but one line add M.Sc. (Botany) after M.Sc. (Taxicology)

Last Date for submission of application forms has also been extended to 31.8.96.

Dr K V Singh
REGISTRAR

SARDAR PATEL UNIVERSITY VALLABH VIDYANAGAR

Notification No. EST (1) 1996-97

Registrar, Sardar Patel University, Vallabh Vidyanagar-388120 invites the applications in the prescribed form for the following posts.

Sr. No.	Name of the posts	No. of the Post
(A)	Professor (Scale Rs. 4500-7300)	
(i)	Chemistry (Each in Organic and Inorganic)	2
(ii)	Sociology	1
(iii)	Mathematics	1
(B)	Reader (Scale Rs. 3700-5700)	
(i)	Chemistry (Polymer)	1
(ii)	English (American Literature)	1
(iii)	M.B.A. (Each in Marketing Management & Financial Management with Computer background)	2
(iv)	Commerce	2
(i)	Management	
(ii)	Finance & Accounts	
(v)	Sociology	1

All the posts carry benefits of D.A., G.P.F., Gratuity and Pension as per University Rules.

The prescribed application forms can be had from the University Office on payment of Rs. 20/- (By cash or Postal Order) in favour of the Registrar, Sardar Patel University. Details of qualifications and job requirement will be furnished alongwith the application forms.

Only one copy of the Mark-Sheet be attached with the application.

The last date of receipt of application by the University is 10-9-1996.

K.M. Patel

OFFICATE REGISTRAR

ASSOCIATION OF INDIAN UNIVERSITIES AIU HOUSE, 16 KOTLA MARG, NEW DELHI 110002

Applications on prescribed form available from this Office on payment of Rs. 5/- (Rs. 10/- if required to be sent by post) are invited from Indian Citizens for the following posts. These posts are purely temporary for a period of six months only

1. Assistant Director (Computer Systems & Analysis)	- One	Rs 2200-75-2800-EB-100-4000
2. Senior Research Associate	- One	Rs. 2000-60-2300-EB-75-3200
3. Research Assistants	- Three	Rs. 1400-40-1800-EB-50-2300

Qualifications & Experience :

- Post 1. Assistant Director - One
(Computer Systems & Analysis)
Essential : i) M.C.A.
ii) Proven capability of independently undertaking computer programming.
- Post 2. Senior Research Associate - One
Essential : i) Good academic record with a First class or High Second Class (B+) in Science, at Bachelor's and Master's level.
Desirable : i) B.Lib. or M.Lib.
ii) M.Phil or Ph.D in Science
iii) Working knowledge of Computer
- Post 3. Research Assistants - Three
Essential : Good academic record with a First class or High Second Class (B+) at Master's level.
Desirable : i) M.Phil. or Ph.D in Science or Social Science
ii) Some experience of independently undertaking research surveys.

SC/ST/Ex-Servicemen will be given preference. Relaxation in the requirements may be made in deserving cases.

The Association reserves the right not to fill up the vacancies advertised. Canvassing in any form by or on behalf of a candidate will be a disqualification. Persons already in service should apply through proper channel.

Applications complete in all respect should reach this Office by 30th August, 1996. Applications received after the last date or without complete information may not be entertained.

UNIVERSITY OF BOMBAY

Applications are invited in the prescribed form separately for each of the following posts in the Sir J.J. College of Architecture.

Sr. No.	Designation of the Post	College	No. of Posts	Post reserved	Open Category i.e. General Category
1.	Principal	Sir J.J. College of Architecture	1	-	1
2.	Professor	-do-	1	1SC	-
3.	Readers in Architecture	-do-	5	1SC 1ST 1DT(A)	2
4.	Reader in Structure	-do-	1	-	1
5.	Lecturers	-do-	11	2SC 1ST 1DT(A) 1NT(B) 2OBC	4
6.	Lecturers in Structure	-do	2	1SC	1

The pay-scale of the posts are as follows :-

Principal :	Rs. 4500-150-5700-200-7300+Rs. 500 Spl. pay p.m.
Professor :	Rs. 4500-150-5700-200-7300.
Reader :	Rs. 3700-125-4950-150-5700.
Lecturer :	Rs. 2200-75-2800-100-4000

In addition to pay, Dearness Allowance, House Rent Allowance Compensatory Local Allowance will be paid according to the University rules. The posts carry the retirement benefits according to the existing rules of the University. Teachers of the University are permitted to take up outside work according to the University rules. The appointment to the posts, will be made on probation for a period of two years.

The minimum qualifications prescribed for the posts are as under :-

Principal

Bachelor's Degree or equivalent qualification in Architecture with 10 years (experience in Teaching/Profession/Research out of which 5 years must be at the level of Professor.

OR

Master's Degree in Architecture or relevant discipline with 8 years (6 years in case of Ph.D. in Architecture or relevant discipline) experience in Profession/Teaching/Research of eminence out of which 5 years must be at the level of Professor or atleast 5 years administrative

experience in a responsible position.

Desirable

Exposure to seminars, Workshops, publishing of Professional papers, etc. in the related field.

Professor

Bachelor's Degree or equivalent qualification (in relevant discipline) with 10 years experience in Teaching/Profession/Research out of which 5 years must be at the level of Assistant Professor or equivalent

OR

Master's Degree in Architecture or relevant discipline with 8 years (6 years in case of Ph.D. in Architecture or relevant discipline) experience in Profession/Teaching/Research out of which 5 years must be at the level of Assistant professor or equivalent.

Reader

Bachelor's Degree or equivalent qualification in Architecture (or in relevant discipline) having 7 years experience in Teaching/Profession/Research of eminence (5 years with Masters' Degree or 3 years with Ph.D. in Architecture or in relevant discipline).

Lecturer

First Class Bachelor's Degree* or equivalent qualification in architecture.

OR

Bachelor's Degree or equivalent qualification in architecture with two years practical experience in the profession.

The minimum qualifications prescribed for the posts at serial numbers 4 and 6 are as under :-

Reader

A good academic record with a Doctor's degree in the relevant field. About 5 years experience of teaching and/or research and development

Provided further that candidates not possessing a Doctor's degree may be considered if they have to their credit equivalent research published work of design/development work of a high order either in the institution or in an industry.

OR

In the case of persons to be recruited from industry or professional field, candidate should possess good academic record with recognised professional work of about 7 years which should include innovation and/or research and development.

Lecturers

- (a) Master's degree in appropriate field in Engineering/Technology,
- (b) Consistently good academic record with a Bachelor's degree in engineering/Technology, First Class at Bachelor's degree and/or Master's degree level.
- (c) One year's relevant professional experience outside academic/research institutions.

Having regard to the requirements of emerging fields of Engineering and of developing interdisciplinary programmes, the requirements of Engineering/Technology degrees may be waived in the cases of otherwise well qualified candidates.

Provided further that if a candidate does not possess professional experience or a person possessing such experience is not found suitable, the person appointed will be required to obtain desired professional experience within a period of five years of his appointment failing which he will not be able to earn future increments, until he fulfills this requirement.

Explanation

- (1) For determining "Good academic record" the following criteria shall be adopted :
 - (i) A candidate holding a Ph.D. degree

should possess at least a Second class Master's degree; or

- (ii) A candidate without a Ph.D. degree should possess a high Second Class Master's degree and Second Class in the Bachelor's degree; or
- (iii) A candidate not possessing a Ph.D. degree but possessing a Second Class Master's degree should have obtained First Class in the Bachelor's degree.

(2) Candidates having secured marks more than mid-point of the prescribed minimum marks for passing an examination in the second class and the prescribed minimum marks for passing an examination in the first class by a University shall be deemed to have passed that examination in the high second class.

In the case of candidates belonging to Scheduled Castes, Scheduled Tribes, Denotified Tribes and Nomadic Tribes the qualification regarding experience is relaxable at the discretion of the Management Council on the recommendation of the Selection Committee.

1. The post of Principal is for general category i.e. open to all. However, it will be filled in on temporary basis subject to the final decision of the High Court, Aurangabad Bench in petition No. 3381/91.
2. Post reserved for SC/ST/DT (A)/NT (B)/OBC will be filled in by candidates belonging to that particular category. If no candidate/s from the reserved category is/are available or found suitable candidates from the open category will be appointed on temporary basis for one academic year only subject to the prior approval of the Government as mentioned in G.R. No. BCC-1094/CR-57/94/16-B, dated 5th December, 1994.
3. Reservation for women will be as per the directions issued by the Vice-Chancellor vide circular No. Estab.I/271/1995 dated 29th June, 1995.
4. Candidates belonging to reserved category should send two zerox copies of their application along with the attested copy of the caste certificate to the Deputy Registrar, B.C. Cell, University of Bombay, Mumbai-400 032.

Nine copies of the application in the prescribed form, together with attested copies of the certificates alongwith a crossed demand draft for a prescribed fee, should be sent in an envelope superscribed with "Application for the post _____" so as to reach the Registrar, University of Bombay (Teaching Appointments Unit) Room No. 134, Fort, Mumbai-400 032, on or before Monday, 26th August, 1996. Candidates from

abroad, Andaman and Nicobar Islands and Lakshadweep may send their application so as to reach the Registrar on or before Tuesday, 10th September, 1996. Candidates who are already employed shall send their applications through proper channel. Application received after the last date fixed for the receipt of applications will not be accepted. The University shall not be responsible for any postal delay. Incomplete applications and applications on plain paper will not be considered. Canvassing direct or indirect will be a disqualification.

Prescribed forms of application can be had free of charge, from the Teaching Appointments Unit, Registrar's Office (Room No. 134), University of Bombay, Fort, Mumbai-400 032. Request for supply of a set of nine prescribed forms by posts should be made sufficiently in advance with a self addressed stamped (Rs. 6.00) envelope of the size 27 x 12 cms.

Candidate having knowledge of Marathi will be preferred.

Mumbai-400 032, Dr. Jafram Chavan
10th July, 1996. REGISTRAR

National Museum Institute of History of Art, Conservation & Museology (NMIHACM)



C/o National Museum, Janpath,
New Delhi-110 011.
(A Deemed University)

Applications are invited for filling-up the following posts in the Institute.

- 1) Dr. Maulana Azad Chair of Professor (Museology) in the pay scale of Rs. 4500-7300.

Essential Qualifications: An Eminent Scholar with published work of high quality, actively engaged in research with 10 years experience in postgraduate teaching and/or research at University/National Level Institutions including experience of guiding research at doctoral level in Museology.

OR

An Outstanding Scholar with established reputation who has made significant contribution to knowledge in Museology.

Age Limit: 55 Years or below.

- 2) Slide Librarian: One in the pay scale of Rs. 2000-3500.

Essential Qualification: i) Master's degree in History of Art/Fine Art/Ancient Indian History, Culture and Archaeology or equivalent degree from a recognised University.

- ii) At least 3 years experience of working in a library of repute in the pay scale of Rs. 1640-2900/Rs. 1400-2600.

Desirable Qualification: i) Bachelor's Degree in Library Science/Library and Information Science or equivalent degree of INSDOC or other from a recognised University.

- ii) Knowledge of Accessioning, Cataloguing & issuing slides, video films, micro films, etc. and similar experience of working in Government/Semi Government/Educational Institutions/Universities, etc.

AGE LIMIT: 35 years (5 years relaxable for SC/ST Candidates) for direct recruitment.

Method of Recruitment: Direct recruitment failing which transfer/transfer on deputation or short term contract of persons from Universities/Colleges, Central/State Museums or any similar Institutions.

The application on plain paper giving full details of name, date of birth, mailing address, whether belonging to SC/ST/ OBC, Educational Qualifications & Experience alongwith application fee of Rs. 50/- (in case of post at Sl.No. 1) and Rs. 20/- (in case of post at Sl. No. 2) through Demand Draft in favour of NMIHACM payable at any Nationalised bank of Delhi should reach the Registrar, National Museum Institute of History of Art, Conservation & Museology C/o National Museum, Janpath, New Delhi-110 011 within 20 days from the date of publication of this advertisement. Persons already in employment should send their applications through proper channel.

REGISTRAR

- davn 1151 (3) 96

रानी दुर्गावती विश्वविद्यालय, जबलपुर

क्रमांक स्था. ०/१६/८७३

जबलपुर, दिनांक १६ जुलाई १९९६

विज्ञापन

रानी दुर्गावती विश्वविद्यालय के विभिन्न अध्ययन विभागों में आचार्य, उपाचार्य, एवं व्याख्याताओं के रिक्त पदों हेतु दिनांक ३१.८.९६ तक निम्नांकित विवरण के आधार पर आवेदन पत्र आमंत्रित किये जाते हैं।

(अ) आचार्य (प्रोफेसर) कुल रिक्त पद - १५

वेतमान रु. ४५००-१५००-५७००-२००-७३००

रिक्त पदों का नाम	कुल रिक्तियाँ	रोस्टर के आधार पर आरक्षण
१. सहायक, शारिरिक शिक्षा	एक पद	अनारक्षित
२. अग्रेजी समाज शास्त्र	एक पद	अनुसूचित जाति
	दो पद	अनारक्षित - १ पद
		अनारक्षित - १ पद
हिन्दी इतिहास	एक पद	अनुसूचित जाति
	दो पद	अनुसूचित जाति - १ पद
		अनारक्षित - १ पद
प्राचीन भारतीय इतिहास एवं पुरातत्व	एक पद	अनारक्षित
अर्थशास्त्र	एक पद	अनुसूचित जाति
बायोसाइंस	एक पद	अनारक्षित
राजनिति शास्त्र	एक पद	अनुसूचित जाति
गणित	एक पद	अनारक्षित
दर्शनशास्त्र	एक पद	अनारक्षित
एम. बी. ए.	एक पद	अनारक्षित
नीतिक शास्त्र	एक पद	अनुसूचित जन जाति

(ब) प्रवाचक (रीडर) - कुल रिक्त पद - १६

वेतमान रु. ३७००-१२५०-४९५०-१५००-५७००

विधि	तीन पद	अनुसूचित जन जाति - १ पद
		अनारक्षित - १ पद
		अनुसूचित जाति - १ पद
अर्थशास्त्र	तीन पद	अनारक्षित - १ पद
		अनारक्षित - १ पद
		अनारक्षित - १ पद
हिन्दी	एक पद	अनुसूचित जन जाति - १ पद
संस्कृत	दो पद	अनारक्षित - १ पद
		अनारक्षित - १ पद
गणित	एक पद	अनुसूचित जन जाति
राजनिति शास्त्र	एक पद	अन्य पिछड़ा वर्ग
सांख्यिकीय	एक पद	अनारक्षित - १ पद
एम. बी. ए.	दो पद	अन्य पिछड़ा वर्ग - १ पद
		अनुसूचित जन जाति - १ पद
रसायन शास्त्र	दो पद	अन्य पिछड़ा वर्ग - १ पद
		अनारक्षित - १ पद

(स) व्याख्याता - कुल रिक्त पद - १७

वेतमान रु. २२००-७५०-२८००-१०००-४०००

विधि	तीन पद	अन्य पिछड़ा वर्ग - १ पद
		अन्य पिछड़ा वर्ग - १ पद
		अनारक्षित - १ पद
नीतिक शास्त्र	एक पद	अनारक्षित
हिन्दी	एक पद	अनारक्षित
जनजाति अध्ययन	एक पद	अनारक्षित
गणित	तीन पद	अनारक्षित - १ पद
		अनु. जन जाति - १ पद
		अनु. जन जाति - १ पद
रसायन शास्त्र	दो पद	अन्य पिछड़ा वर्ग - १ पद
		अनारक्षित - १ पद
सिस्टम साइंस	एक पद	अनुसूचित जाति
इलेक्ट्रॉनिक्स	एक पद	अनारक्षित
एम. बी. ए.	दो पद	अनारक्षित - १ पद
		अनुसूचित जाति - १ पद
प्राचीन भारतीय इतिहास	एक पद	अनारक्षित
एवं पुरातत्व		
अर्थशास्त्र	एक पद	अनुसूचित जन जाति

अन्य विवरण :-

(१) उक्त सभी पदों हेतु विश्वविद्यालय अनुदान आयोग, नई दिल्ली एवं मध्य प्रदेश शासन द्वारा निर्धारित शैक्षणिक योग्यताएँ एवं अन्य अर्हताएँ तथा वेतन लागू होंगे। (२) विषय संबंधी विशेषज्ञता एवं अन्य विवरण आवेदन

पत्र के साथ एव सलग्न हैं। (३) निर्धारित आवेदन पत्र (८ प्रतियों में) पद अ) हेतु रु. २००/- (ब) हेतु रु. १५०/- एवं (स) हेतु रु. १००/- विश्वविद्यालय कोष में नगद जमा कराकर अधोहस्ताक्षरकर्ता से प्राप्त किए जा सकते हैं। (४) व्याख्याता पद हेतु अधिकतम आयु सीमा में ३५ वर्ष आवेदन पत्र प्रस्तुत करने की अंतिम तिथि तक होगी। अनुसूचित जाति, अनुसूचित जन जाति तथा पिछड़ा वर्ग के आवेदकों हेतु शासकीय नियमानुसार ५ वर्ष की आयु सीमा में छूट प्रदान की गई है। (५) आवेदकों के आवेदन पत्र पर स्पष्ट उल्लेख होना चाहिए कि उन्होंने किस वर्ग के अंतर्गत आवेदन किया है। जिसके लिए उन्हें प्रथम श्रेणी के राजस्व अधिकारी द्वारा प्रदत्त जाति प्रमाण पत्र प्रस्तुत करना अनिवार्य है। उक्त के अभाव में आवेदकों को सामान्य श्रेणी में ही मान लिया जायेगा। (६) उक्त पदों हेतु प्रसारित पूर्व विज्ञापनों के सदर्थ में जिन आवेदकों ने आवेदन पत्र प्रस्तुत किए हैं वे सभी निरस्तर कर दिए गये हैं। (७) रिक्त पदों को भरने अथवा न भरने का अधिकार विश्वविद्यालय के पास सुरक्षित रहेगा। (८) पूर्ण रूप से भरे आवेदन पत्र विश्वविद्यालय कार्यालय में जमा करने की अंतिम तिथि ३१ अगस्त १९९६ निर्धारित की गई है। उक्त अवधि के पश्चात प्राप्त आवेदन पत्रों पर विचार नहीं किया जायेगा। जो आवेदक वर्तमान में कहीं सेवारत हैं तो वे अपने विभागीय प्रमुख के माध्यम से ही आवेदन करें।

एच. एस. पाण्डेय
कार्यकारी कुलसचिव

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UNIVERSITY OF JAMMU,
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PGD/PHY/96/CSIR-01

POSITION OF JRF/SRF

A position of JRF/SRF has been sanctioned to the undersigned by the Council of Scientific & Industrial Research (CSIR) in a sponsored research project entitled, "Systematics in Single Crystalline Growth, & X-ray Crystallography of Some Substituted Biphenyls", for a period of three years. NET/GATE qualified students with 55% marks in M.Sc. are eligible to apply for JRF. In the event of non-availability of NET/GATE qualified students, the position can be offered to non-NET/GATE students for SRFship provided the candidate has two years of research experience in Solid State Physics/Materials Science/Crystallography. Selected candidate can get himself registered for Ph.D. programme of Jammu University. The upper age limit for JRF/SRF is 28/32 years, respectively. The age, however, can be relaxed in case of suitably qualified and experienced students. The upper age limit is relaxable up to 05 years for candidates belonging to SC/ST/OBC and women and physically handicapped candidates. The fellowship payable to JRF/SRF is Rs. 2500/2800/- per month. Interested candidates may submit their applications along with a copy of their biodata in a sealed envelope to the undersigned on or before September 7th, 1996. No TA/DA shall be paid for attending the interview.

Dr. Rajnikant
PRINCIPAL INVESTIGATOR

AWADHESH PRATAP SINGH UNIVERSITY, REWA (M.P.)

No. Dev/96/316

Dated :- 11.7.96

REFRESHER COURSES FOR COLLEGE/UNIVERSITY LECTURERS**ADVERTISEMENT**

The University Grants Commission, New Delhi has approved the scheme of organising the Refresher courses for in service teachers at A.P.S. University, Rewa (M.P.) in the following disciplines during 1996-97. The applications in proper proforma can be submitted by College/University lecturers through their respective heads of the institutions so as to reach atleast 20 days before the dates of the commencement of respective courses, mentioned below. The selected candidate in particular course will be informed before two weeks from the commencement of the course.

Broad Discipline	Theme	Schedule of dates
1. Physics/Space Physics	First: Recent Advances in General and Material Science Micro Electronics and Computer Applications.	Aug. 12 to Sep. 02, 1996.
	Second: Advances in Near Earth Environment	Nov. 12 to Dec. 02, 1996.
	Third: Physics of Materials & Technological Applications.	March 03 to March 24, 1997.
2. Business Economics	First: Current Trends in Indian & World Economy.	11.8.96 to 31.8.96.
	Second: Development Banking & Management of Financial Services	03.12.96 to 24.12.96
	Third: Planning & Development of Key Sectors in India.	01.3.97 to 21.3.97.
3. Environmental Biology.	First: Community Dynamics.	01.9.96 to 21.9.96.
	Second: Laboratory and Field Studies in Environmental Sciences.	13 11 96 to 03.12.96.
	Third: Environmental Pollution: Monitoring and Management.	01.02.97 to 21.02.97.

The participating teachers will be paid TADA as per UGC norms. About 85% of the teachers will be selected from the Colleges/Institutions of Madhya Pradesh, whereas rest 15% on all India basis. The total number of seats are limited to 30 in each course. The application forms for the courses along with details, instruction can be obtained from the respective Head of the University Teaching departments from July 10th, 1996.

REGISTRAR**GOVIND BALLABH PANT SOCIAL SCIENCE INSTITUTE****3, Yamuna Enclave, Sangam Nagar,****Jhushi, Allahabad - 221506****Advertisement No. 1/1996**

The G.B. Pant Social Science Institute, founded and financed as an autonomous institution by the Indian Council of Social Science Research and the Uttar Pradesh Government to undertake, promote and co-ordinate research in Social Science, provides excellent research career opportunities with modern facilities for theoretical, applied and policy research.

Applications are invited for academic positions of **Professor, Reader and Research Associate (Lecturer)** for contract or visiting or permanent appointment in the following disciplines : **Economics, Sociology, Political Science, Social Anthropology, Social Psychology, Education, Human Geography, Demography and Social History.** Pay-scale for various academic positions are as per norms of the U.G.C. Allowances, D.A. and other benefits are admissible as per rules of the institute. The age of superannuation shall be sixty years, or as per individual contract.

Applicant with proven research capabilities in terms of publications and experience of independently completing research projects will be preferably considered. Applications should be submitted to the Registrar by **August 31, 1996**, on the proforma obtainable from the Registrar by sending a self-addressed envelope of 23 x 10 cm size affixed with Postage stamp of Rs. 8.00 alongwith detailed biodata, names of three referees, sample of your best publications (not more than three), and your projected academic work-plan for two years (500 words).

Minimum qualifications required for each post will be sent with the proforma by the Registrar. Those who have applied earlier are requested to send updated biodata and fulfil other requirements specified above.

**R.P. Singh
REGISTRAR**